



1997

A Case Study for the Preservation of a Usonian House by Frank Lloyd Wright

Catherine Jill Goldberg
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**A CASE STUDY FOR THE PRESERVATION OF A USONIAN HOUSE
BY FRANK LLOYD WRIGHT**

Catherine Jill Goldberg

A THESIS

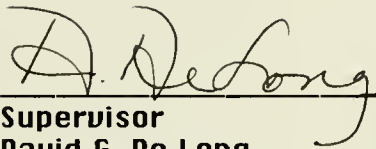
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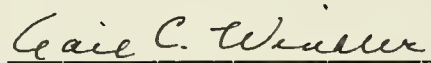
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MASTER OF SCIENCE

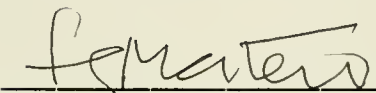
1997



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**All Illustrations without cited sources are current photographs
by Catherine Goldberg.**

CHAPTER 1

THE BEGINNINGS OF USONIA AND THE REISLEY HOUSE

Usonia

The Roland and Ronny Reisley house, 1951, was built in a residential community named Usonia in the town of Mount Pleasant in Westchester County, New York, approximately thirty miles north of New York City. Frank Lloyd Wright (1867-1959) borrowed the name "Usonia" from a term invented by the writer Samuel Butler. A feature story about Usonia which in *Town and Country Planning*, 1954, includes a reference to the origins of the word. Priscilla Henken explains,

The name was the gift of Samuel Butler, who in order to distinguish the citizens of the United States from other Americans on both continents, gave them the name of Usonians....(U-United, S-States, O-Of, N-North, A-America, and the I for euphony.) Mr. Wright used the name to describe his house for the average American, or Usonian—that house whose principles have become a kind of ten commandments to modern architects everywhere.¹

Although residents came to know the community as simply "Usonia," Wright actually gave the project the official name "Usonia II." Bruce Brooks Pfeiffer includes a description of "Usonia II" in a discussion of the Sol Friedman house, 1948, in *Frank Lloyd Wright Monograph*. "In Pleasantville, New York, in a

¹ Priscilla J. Henken, "A 'Broad-acre' Project," *Town and Country Planning* (U. 23, June 1954), p. 294-295.

beautifully situated tract of woods," Pfeiffer writes, Mr. Wright made a similar proposal for a group of clients as he did in Lansing, Michigan, a decade earlier. He called the Lansing project for seven teachers' houses "Usonia," and called this newer scheme "Usonia II."²

Usonia was conceived as a cooperative housing plan consisting of partly custom-made houses designed for middle-income families. Wright's role involved supervising the physical layout of the community during its initial planning phase and executing designs for several buildings.

David Henken, the principal founder of Usonia and a former apprentice to Wright, was an engineer by trade. Henken is largely responsible for the cooperative venture's success in getting off the ground. Other architects and architect-teams who played active roles in the initial planning stages of the community include Robert Bishop, Theodore Dixon Bower, Kaneji Domoto, Alden Dow, John Lautner, Aaron L. Resnik, Paul Schweiker and Winston Elting, Charles Warner and Harold Leeds, and Marcus Weston.³ Harold Turner was appointed Consultant Builder of Usonia.⁴ Turner acted as Wright's Master Builder from 1936-1950.

² Bruce Brooks Pfeiffer, *Frank Lloyd Wright Monograph, VII, 1942-1950* (Tokyo: A.D.A. Edit, c. 1984), p. 236.

³ *Realizations of Usonia: Frank Lloyd Wright in Westchester*. (Yonkers: a catalogue published for an exhibition at the Hudson River Museum, 3 February through 7 April, 1985), p. 14.

⁴ Turner is likely to have filled this position from 1947-1950. Confirmation needed.

In 1944 Usonia was incorporated as a Rochdale Cooperative under New York state law.⁵ As established by cooperative law, home ownership meant that residents had to comply with certain requirements. One, ownership of land and physical improvements was the responsibility of the cooperative organization. Two, residency was mandatory for membership in the cooperative. Three, each member of the cooperative was granted a 99-year lease on .85 acres.⁶ Four, for every acre designated a residential lot, one acre was set aside for community lands. This policy created an equal ratio of developed land to free land.⁷ Five, membership in the cooperative was limited to a maximum of 50 households. Initial expenses per family included a one hundred dollar membership fee and a five dollar share from each family member. A fifty dollar monthly fee, also required of each family, was deposited into a joint fund created for the cooperative.⁸ Six, voting was conducted according to a democratic system. Each member was allowed one vote, independent of the amount in dollars of his or

⁵ The legal definition of Rochdale Cooperative was not examined for this report. The term has its origins in the Rochdale pioneers, a body of cooperatives and Utopian communities which originated in England and America.

⁶ This amount was the estimated lot size specified in Frank Lloyd Wright's original site plan. In execution, average acreage exceeded .85, approximating one acre.

⁷ Building density did not conform to the zoning in place in the community's site within Mt. Pleasant. As required by existing laws, a minimum of 5,000 square feet per building lot was mandatory. Legal exceptions for cooperatives may have been permitted in special cases (Zoning was not studied for this report).

⁸ *Realizations of Usonia*, p. 9.

her investment in the cooperative. Seven, all plans of buildings not designed by Wright required Wright's approval prior to construction. Eight, members were encouraged to volunteer in the building of houses and community structures. According to the terms of the cooperative contract, construction costs, including estimates and workmen training, were intended to be shared among members.⁹

The Usonia group purchased the tract of land in Mount Pleasant in 1947. In a published history of the community which accompanied an exhibition at the Hudson River Museum in 1985, Priscilla Henken described the topography of Usonia as heavily wooded. "Surrounded on three sides by a pine-tree watershed," the wife of the founding architect wrote, "that forms a permanent green belt, it is hilly, rolling, with pleasant little brooks, fine old trees as well as much new growth, stone fences which are remnants of ancient farms (our title search indicated that the land was originally the royal grant of William and Mary to Frederick Philipse), and abundant small wild life."¹⁰ (See Illus. 1 & 2).

Wright's idealized plan of Broadacre City was a model for Usonia. Both plans have decentralized spaces, circular lots which are evenly distributed across the sites with interstitial free lands between. Priscilla Henken described the site plan of Usonia thus:

⁹ *Realizations of Usonia*, p. 14.

¹⁰ *Realizations of Usonia*, p. 8.

Over the ninety-seven acre site, Mr. Wright threw a circular geometric pattern. There are fifty-five circular plots – one for each house – of approximately an acre each. These touch neighboring sites only at contiguous points, and each group of six encircles another circular plot, which is used as a small park. The little triangular wedges that are left between circles remain the buffer areas of green.¹¹

From the outset of construction in 1944, the cooperative established that a portion of the joint fund would be used for buildings and resources to be shared by the community, such as a community house and children's farm which were not executed (Illus. 3). Several low-cost materials purchased in bulk include cypress, "raduct" or wrought-iron heating pipes used for sub-floor heating, refrigerators manufactured by General Electric, fire equipment, and lumber from an army base in North Carolina.¹²

A community well was constructed and a storage tank brought to the site c. 1948. A pump house built by a group of volunteer residents in January, 1949, was the first building erected on the site of Usonia (Illus. 4). Electricity and water were installed by the end of June, 1949.

Considering the uniformity of materials used in building construction, the houses in Usonia are distinctive. "Even though standards of sizes, materials, and modules were established,"

¹¹ *Realizations of Usonia*, p. 8.

¹² *Realizations of Usonia*, p. 8, 16.

Priscilla Henken explains in *Realizations of Usonia*, "and there are many features in common, each house is the only one of its kind."¹³ Henken points out that each house considers the land, even as it distinguishes itself from its neighbor. "Each has been oriented," she writes, "with sheltering eaves, to let the low winter sun stream in and keep the high summer sun out."¹⁴ (Illus. 5-8).

Subsequent to the initial planning phase of Usonia, Wright decided to limit his participation to designs for five houses. Three were actually built: The Sol Friedman house, 1948; the Edward and Beatrice Serlin house, 1949; and the Reisley house, 1951. Due to financial struggles, none of the designs for community buildings were executed.

The cooperative experienced a series of setbacks. According to Priscilla Henken, the group misjudged costs. Anticipating pre-war figures, they aimed "too high without realizing that houses would quadruple in cost."¹⁵ Despite poor estimates, Usonia was still economically viable by 1950. In March of that year the group obtained a mortgage from Knickerbocker Federal Savings and Loan Association. Continued financial losses, however, perpetuated a decision by the majority to adapt a new policy of

¹³ *Realizations of Usonia*, p. 8.

¹⁴ *Realizations of Usonia*, p. 8.

¹⁵ *Realizations of Usonia*, p. 9.

private ownership, officially ending the terms of Usonia's cooperative agreement.¹⁶

The Roland and Ronny Reisley house, 1951-1956¹⁷

The plan of the Roland and Ronny Reisley house is based on a modular grid of 60 degree equilateral triangles measuring four feet on each side.¹⁸ The floor space, including the living room wing of the first phase, 1951, and the bedroom extension, 1956, is roughly 3,200 square feet. The foundation consists of a concrete mat approximately four inches thick laid over broken stone. Wright used a combination of board and batten cypress walls, held together with nails, and native rough granite walls. Both types of construction are load-bearing. Glazing throughout consists of polished plate glass, 1/4 inch in thickness. (For general views of exterior, see Illus. 61-64).

Wright completed final plans for the first building phase of the Roland and Ronny Reisley house in the fall of 1951. Construction

¹⁶ No date was identified for the legal change in status from cooperative to private ownership. For a brief history of Usonia, see Section 1, page 2 of 4 in Appendix II of this report (The Frank Lloyd Wright Building Conservancy and Catherine J. Goldberg, *Properties Database: Completed Survey of the Roland & Ronny Reisley house*).

¹⁷ Information in the following section, including dates, was obtained from interviews with Roland Reisley and blue prints of final plans by Wright in the Reisleys' possession. Blue prints of plans were studied during a site.

¹⁸ Frank Lloyd Wright, Instructions for Unit System, Sheet No. 1 of Final Plans for the Roland and Ronny Reisley House, 1951.

began in October of 1951 and was finished in the spring of 1952, at which time the Reisleys began their residency in the house. The first phase includes the living room, workspace, study, master bedroom, master bath, and basement (Illus. 9). William Allin Storrer describes the the 1951 wing as follows (Illus. 35):

The original structure was a complex small-scaled in-line plan. The main entry is at one end of the carport. A gallery leads to the side, then doubles back, dropping off two bed-rooms, one used later as a study, with shallow cantilevered balcony and terminating in a bathroom with a special low sink for ease of washing a baby. Off the main gallery is a stairway leading to a basement with photographic darkroom and a wine cellar under the bedrooms. Dining space was to one side of the living room, which looks south over a terrace into hilly, wooded countryside.¹⁹

In 1955 Wright executed plans for the second phase, which includes a dining room and bedroom extension. The dining room was designed as an adjoining space to the living room, rather than a separate room cut off by a partition wall. The dining room and bedroom extension were begun in 1956 and completed in June of 1957 (Illus. 10).²⁰

Final plans indicate that Wright planned the Reisley house around two intersecting unit lines meeting at the center of the property. The orientation of the house, as originally planned, was altered to accommodate the site (See Illus. 35). Storrer explains,

¹⁹ William Allin Storrer, *The Frank Lloyd Wright Companion* (Chicago: University of Chicago Press, 1993), p. 333.

²⁰ The dining room is technically part of the bedroom extension, as it was executed during the same building campaign.

This structure was turned 13 degrees from Wright's site plan to simplify blasting of the rocky hillside. Wright wanted to make the addition climb the hilly site, as the Hanna house did, but that would have been expensive. When challenged by the Reisleys, "we don't believe you can do it," Wright "snorted," and produced a workable plan. The addition took no notice of the 13-degree rotation, yet was fitted to the site, at 120 degrees to the original building....²¹

²¹ Storrer, *The Frank Lloyd Wright Companion*, p. 333.

CHAPTER 2

MASTERPIECE BY ARCHITECT AND CLIENT: A DISTINCTIVE DESIGN FOR A USONIAN HOUSE

The "Room for Living"

Materials and Design

It was Wright's opinion that the living room or "room for living" is the most important room in a house, the heart of the home. In *The Natural House* Wright posed the question, "What must we consider essential now?"²² In response he wrote, "We must have as big a living room, with as much vista and garden coming in as we can afford, with a fireplace in it, and open bookshelves, a dining table in the alcove, benches, and living-room tables built-in: a quiet rug on the floor."²³ All such features are found in the Reisley house living room (Illus. 11 & 12).

The combination of cypress and granite is one of the most striking aspects of the space. In *The Frank Lloyd Wright Companion*, Storrer comments on Wright's use of materials in the Reisley house. "The last of Wright's Pleasantville projects,"

²² Frank Lloyd Wright, *The Natural House* (New York: Horizon Press, 1954), p. 88-89.

²³ Wright, *The Natural House*, p. 88-89.

Storrer writes, "continues the use of local stone as the basic building material with cypress wood paneling trim...."²⁴

To date, the wood and stone inside the house are in excellent condition, virtually unchanged from their original appearances (Illus. 13, 14, & 15). The newness of the house relative to earlier buildings by Wright, and the Reisleys' continuous maintenance over the years, may account for the integrity of the structure.

Incidentally, the materials Wright employed in construction of the Usonian houses were meant to change in outward appearance over time, even as they remain in sound condition. A special issue of *House Beautiful* devoted to Wright, published in 1955, recognizes the timeless quality of Wright's materials: "The wood becomes more wonderful," a passage observes, "the masonry more and more like the natural horizontal coursings of a quarry."²⁵

The board and batten cypress walls in the living room hardly look four or five years old, much less their actual 45 years. Roland Reisley remembers a conversation with Wright regarding the changing appearance of cypress as it ages. The architect was apparently aware that the wood matures from a honey-brown

²⁴ William Allin Storrer, *The Frank Lloyd Wright Companion* (Chicago: University of Chicago Press, 1993), p. 333.

²⁵ "The Dramatic Story of Frank Lloyd Wright," *House Beautiful* XCIII (November 1955), p. 321. Special Issue devoted to Wright.

color to a grayish color with time. According to Reisley, Wright expected this transformation to occur in the cypress surfaces, both exterior and interior, of the Usonian houses. In final plans he did, however, recommend frequent applications of finish to interior wood surfaces to maintain their new appearances. As indicated in instructiond for finishing wood: "All interior wood surfaces" might be "first treated with a coat of one part white shellac to one part denatured alcohol. Or if desired by owner, in place of shellac, one coat satinlac followed by one coat of Johnson's Paste Wax buffed to a dull gloss."²⁶

According to Reisley, Wright did not object to letting the cypress surfaces become duller with time, to an extent. It may have been Wright's intention to let the owner decide the degree of luster of wall surfaces and built-ins. More frequent applications of shellac and wax might prevent dulling, but excessive treatments which produce a high-gloss surface resembling the sheen of sailing vessel decks were not deemed necessary or even desirable.²⁷

Interior masonry walls are in good condition, with the exception of one section of wall on the south side of the living room separating the space from the dining area (See Illus. 15). This section may have been re-pointed with a lighter mortar than the original mix.

²⁶ Frank Lloyd Wright, Specifications for Painting and Finishing, Sheet No. 4 of Final Plans for the Roland and Ronny Reisley House, 1951.

²⁷ Interview with Roland Reisley, Spring 1996.

All granite in the Reisley house, gray mixed with brown tones, was obtained from a local quarry in Westchester, New York.²⁸ The same source was used for the masonry of the other houses in Usonia (See Illus. 16). Granite, an *igneous* rock, or mineral deposited in a molten state, is durable and non-porous. It is largely water resistant and can withstand temperature changes, making it well-suited to the northeast region of the United States.

While growth of lichens is generally limited to exterior masonry, efflorescence can sometimes occur on stone and concrete inside a building. Efflorescence appears in the form of a white, flaky powder on a masonry surface. It results from water-soluble salts in brick, stone, or concrete, deposited as crystals during evaporation of water from masonry surfaces. Efflorescence is severe on exterior surfaces of the Serlin house, 1949 (See Illus. 17). Some efflorescence has occurred on the exterior walls of the Reisley house (no image available), although none currently exists on the granite surfaces inside.

Cracks in stone may allow water from the outside to penetrate the wall structure and evaporate on surfaces inside, resulting in efflorescence. It is therefore important that future

²⁸ Granite ranges in colors depending on its mineral composition. Common colors include gray, black, brown, green, buff, pink, and red. Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 290.

maintenance of the Reisley house include regular inspection of interior masonry surfaces for cracks.

Apart from the masonry used in wall construction in the living room, stone was used for construction of the fireplace as well. Wright considered the hearth to be one of the most defining architectural features of the living room. In describing the "New House," Wright traces his inspiration for the central hearth to his urgent need to eliminate the stuffy parlor fireplace.

Instead of lean, brick chimneys bristling up everywhere to hint at Judgment, I could see necessity for one chimney only. A broad generous one, or at most two. These kept low down on gently sloping roofs or perhaps flat roofs. The big fireplace in the house below became now a place for a real fire. A real fireplace at that time was extraordinary. There were mantels instead. A mantel was a marble frame for a few coals in a grate. Or it was a piece of wooden furniture with tile stuck in it around the grate, the whole set slam up against the plastered, papered wall. Insult to comfort. So the integral fireplace became an important part of the building itself in the houses I was allowed to build out there on the prairie. It comforted me to see the fire burning deep in the solid masonry of the house itself. A feeling that came to stay.²⁹

The fireplace in the Reisley house living room is constructed of rough granite (See Illus. 12). The structure shares a masonry mass with the fireplace in the study next door. The exteriors of the two adjacent chimneys, above living room and study, were recently re-pointed by a mason named Silvio Ruta of New Rochelle, New York. Roland Reisley held a consultation with a conservationist, Norman Weiss (WASA), for the purpose of

²⁹ Wright, *The Natural House*, p. 37.

determining the appropriate mortar type for the project, both in composition and color. Reisley reports satisfaction with the color of the mortar which was applied, as well as approval of Ruta's workmanship. He says the job more or less matches the original pointing.³⁰

The dimensions of the chimney opening are generous, 24 inches wide by 16 inches deep. Michael Pinkus, the current owner of the Edward and Beatrice Serlin house, 1949, recently reported gusts of air entering his house through the living room fireplace. His problem may be the result of a dislocated damper or a chimney flue which is not operating properly.³¹ Roland Reisley reports no such occurrences in the three fireplaces in the Reisley house. Anticipating the possibility of future problems, Reisley did consider purchasing a copper flue cap for the living room fireplace. In the end he decided against the installation of a flue cap for aesthetic considerations.³²

Sharing equal importance with the sculptural cypress walls and rough granite are floor-to-ceiling polished plate glass windows and French doors opening onto a patio at the south facade (Illus. 18 & 19).

³⁰ The ASTM identifies four basic mortar types, ranging from light to dark gray. Other colors may be derived from adding pigments to standard mortar mix, or by obtaining dry mortar mix which is custom-colored.

³¹ Interview with Michael Pinkus, Spring 1996.

³² Interview with Roland Reisley, Spring 1997.

As early as the first decade of the 1900s, Wright was creating unprecedented light-filled designs, rooms which allowed extraordinary amounts of sunlight into the interior. *House Beautiful*, 1955, cites the living room of the Avery Coonley house, 1906-1908, as an example of a living room by Wright with broad expanses of windows inviting the outdoors in. The living room of the Coonley house features French doors on three sides. According to *House Beautiful*, the openness gives the impression of a "grandly spacious" room "with a soaring quality in the ceiling lines."³³

The impression of height is comparable in the living room of the Reisley house, although the latter room may appear more sheltered because one wall only is glazed. Plate glass throughout the building, also used in the Friedman and Serlin houses, is one-quarter inch in thickness. Glass panels are rabbeted into masonry at several locations. At other junctures glass meets glass, forming mitered corners.

The Serlin house has mitered corners also. Condensation is persistent in these, especially during the winter months.³⁴

Roland Reisley reports little condensation in the living room windows of the Reisley house. However, in c. 1980 Reisley replaced all original glass in the west walls of the study and master bedroom with thermal windows. Reisley says that the

³³ *House Beautiful* XCVIII, p. 274.

³⁴ Site visit to the Serlin house, Spring 1996.

new windows have eliminated the condensation he started to notice in these two rooms over a decade ago. One disadvantage of thermal windows is fogging, which can occur in the vacuumed space inbetween glass panels on average of ten years after installation. Another drawback is a slightly purplish hue which causes the windows to appear different in color from the entirely transparent plate glass originally installed by Wright.

Fading of built-in furniture and textiles from sun exposure is a potential danger of the large window-area to wall ratio in the Reisley house, especially in the living room. Roland Reisley admits that he and Mrs. Reisley prefer to keep curtains drawn back from windows at all times throughout the house, so that they may enjoy a light-filled atmosphere whenever possible. Judging from their deep amber color, wood surfaces of built-ins have been little damaged from sun exposure thus far. Their good condition may be the result of some or other protective element in the shellac or wax finish used on the furniture.³⁵

Solid-colored textiles with large surface areas prone to fading are nowhere to be found in the Reisley house living room. For example, seat cushions are a neutral oatmeal color. One exception is a once-gold hexagonal rug designed for the living room by Mildred Resnik, a Usonia resident and textile designer. The shag has faded considerably to a light putty color (Illus. 20).

³⁵ The existence of an ingredient in the finish which protects against sun damage is conjectural.

Installing windows with ultraviolet protection may reduce damage from sun exposure. There is a noticeable difference in appearance, however, between glass with u.v. protection and the plate glass Wright used throughout the house. The former is treated with a special finish which gives off a purplish tone, whereas the latter is entirely translucent. Damage from sun exposure will be best prevented by closing curtains over windows during hours of high sun exposure and times when rooms are not in use. While surfaces are in fair, even good condition at present, protective measures will be necessary in the future.

Furniture Designs and Plays on Geometry

Materials aside, the living room of the Reisley house imparts an appearance of movement created in the angularities of its plan and the placement of furniture within it. The theme of the hexagon is played out in the shape of the room itself (See Illus. 9 & 10), the custom-designed living room rug, the loosely placed velour-upholstered hassocks³⁶ (Illus. 21), and two teak half-hexagon tables fabricated by furniture designer Paul Bechtold of New York (See Illus. 19), to name four examples.

Such repetition demonstrates Wright's skill at manipulating geometries, specifically his talent for creating "little

³⁶ Maker unknown.

rhythms."³⁷ The eye is drawn around the room, not permitted to rest at any one location. Rather, it is coaxed back and forth from the periphery to the center with its blue hexagon floating in a sea of pale rug. Each angular object contributes to the non-static appearance of the room, as Wright insisted that all be "contained in contentment within the architectural structure, for it is the dominant factor in our manmade environment."³⁸

The complimentary colors of russet and green on the hassocks, set upon the stage of the blue-bordered rug (See Illus. 21), is a particularly striking example of Wright's manipulation of color and geometry to create an illusion of movement with furniture. The contrast of red and green is almost startling—Stimulating, really. The observer looks from one piece to the other, then back again, marveling at their similarity and obvious difference. The movement is charged with energy, contained within the blue border of the rug as if it held a magnetic field.

The living room of the Reisley house features more traditional "Wrightian" furniture as well as distinctive designs in innovative colors, such as the hassocks. To cite one example of a classic design, the built-in seating unit with open shelves is a prolific feature in Wright's living rooms. The unit in the living room at Taliesin East, featured in *House Beautiful*, 1955, reflects Wright's personal affinity for a designated reading spot within the living

³⁷ *House Beautiful* XCVIII, p. 362.

³⁸ *House Beautiful* XCVIII, p. 362.

area. "Neither very large nor very costly," the article explains, it "has a splendid sense of light and air in which Wright places a calm and sheltered cove of low couches, cushions, tables and books."³⁹

Wright furnishes the living room of the Reisley house with a similar built-in seat on a smaller scale. Following the same principle of creating intimate space, the master situates the "reading nook" in the living room along a windowless wall which is continuous with the hearth. Open shelves project above what appears to be a couch. The unit is actually multiple seating, consisting of three separate plywood units. Roland Reisley explained that Wright originally designed the piece as one continuous seat with a single cushion. Preferring multiple seating, the Reisleys requested that Wright modify the design to consist of three individual units separated with plywood dividers, each unit fitted with a removable foam cushion.⁴⁰ An attached end table, concealing a storage compartment within (See Illus. 29), repeats the theme of the hexagon while providing a generous surface area for reading materials.

Wright designed a coffee table to accompany the built-in seat and shelves (See Illus. 20). Similar in construction to the table designed for the dining nook (See Dining Area), the top is a long, low slab with beveled ends, pieced together from four boards

³⁹ *House Beautiful* XCVIII, p. 265.

⁴⁰ Interview with Roland Reisley, Spring 1997. The reasoning behind the Reisleys' preference for multiple seating was not made clear.

cut at angles. The table's angled base matches the bases of the hassocks and that of Paul Bechtold's two half-hexagon tables.

The free-standing furniture in the living room which was not designed by Wright is outwardly Wrightian in spirit. Two examples which embody the master's design principles are the side tables by Bechtold (See Illus. 11 & 19)—Wright designed a single-plank table in the shape of a hexagon at Taliesin East, similar in concept to these—and two easy chairs along the south windowed wall beside the fireplace. The chairs are sturdy, functional, and designed with seats inclined backward for comfortable reclining. According to Wright, "The only attractive posture of relaxation is that of reclining. So I think the ideal chair is one which would allow the would-be "sitter" to gracefully recline." Typical of chairs by Wright, their frames are undecorated, constructed of natural wood without paint or turning. (See Illus. 12).⁴¹

A room divider with built-in seat by Mildred Resnik, who is credited with the design of the hexagonal rug also, separates the living room from the dining area (See Illus. 25 & 26). Resnik's seat-and-storage-cabinet-in-one resembles built-in furniture by Wright himself, both in overall design and use of plywood construction (See Illus. 27). The three foam cushions match the cushions on Wright's built-in seat at the opposite end of the room by the fireplace (See Illus. 23). A teak-veneered end

⁴¹ Wright, *The Natural House*, p. 170.

table with two levels, continuous with a storage cabinet on the dining room side of the piece (See Illus. 25 and 28), is similar to a hexagonal table attached to Wright's built-in seat, and also constructed with a teak surface (Illus. 29). According to Reisley, table tops throughout the living room are finished with teak veneer, giving the surfaces a uniform appearance. The veneer consists of one-half inch teak bonded to a thicker sheet of redwood.

Wright's recommendations for treating interior cypress in the Reisley house included application of a finish to wood surfaces consisting of one part white shellac to one part denatured alcohol, or as an alternative to shellac, one coat of "satinlac" followed by one coat of Johnson's Paste Wax. As indicated in plans, surfaces should be "buffed to a dull gloss."⁴²

Even in the case of diligent homeowners such as Roland and Ronny Reisley, regular dustings do not entirely eliminate the build-up of residues on wood surfaces over time. Roland Reisley recently employed Tom Gentle, a furniture restoration specialist who is well known among Wright preservationists for his skill at refinishing wood surfaces, to restore a free-standing cypress veneer bureau in the master bedroom (date of project unknown). Reisley said he strongly recommends seeking professional assistance in refinishing all Wright-designed

⁴² Frank Lloyd Wright, *Specifications for Painting and Finishing*, Sheet No. 4 of Final Plans for the Roland and Ronny Reisley House, 1951.

furniture as an alternative to "home treatments," some of which can permanently damage surfaces. Proper refinishing of furniture is especially important in the living room of the Reisley house, where the total area of wood surfaces is great.

Decorative Arts and the Role of Color

Collectively, the small objects which decorate the living room of the Reisley house have as great an impact on the room as the furniture. The Reisleys have created areas of visual interest by introducing clusters of decorative arts to the interior, carefully arranging the objects without cluttering the space. One such group occupies the room divider with built-in seat designed by Mildred Resnik. Bowls of glass, lacquer, silver, wood and china, together with a feline statuette and a small green house plant, are displayed on a two-tiered table built into the divider (Illus. 25).

Wright created visual interest through manipulation of color as well as geometry. According to the owners, all objects and artwork currently in place in the living room were collected over the years, independent of Wright.⁴³ Consciously or not, their choices reflect the architect's increasing preference for brighter colors during the late phase of his career. According to David G. De Long, Wright's transitional years beginning in the second decade of the twentieth century saw the introduction of vivid

⁴³ Interview with Roland Reisley, Spring 1997.

colors in interiors. "The predominant browns and autumnal tones of his early interiors," De Long writes, "were more frequently enhanced by brighter colors."⁴⁴

Shades of red, brown, green and natural tones of white feature prominently in the living room, seen in the examples of the hassocks (Illus. 21), assorted patchwork throw pillows (Illus. 22 & 23), a wooden dish painted red (Illus. 24), white china bowls with delicate painted patterns in blue and red (Illus. 25), and various leafy green house plants (See Illus. 19 and 25).

Like larger pieces in the room, such as the green and red hassocks, smaller decorative arts objects collectively form a colorful entourage which, interestingly, appears non-stationary. The large-area rug and neutral cushions on the built-ins provide a quiet background for the dozens of ornamental objects, for example the china bowls with red and blue paint and shining brass candle holders which inhabit the teak surfaces of the furniture, and seem to migrate across them (See Illus. 25). In the Reisley house, then, the Reisleys and Wright have manipulated shapes and colors to create movement and eliminate monotony. A passage in *House Beautiful*, 1955, describes Wright's skill at doing just this: "Whatever he [Wright] likes, he makes a place for...playing the texture and form of one

⁴⁴ David G. De Long, "The Place of Objects: Frank Lloyd Wright's Attitudes Towards Interior Design and the Decorative Arts," *Frank Lloyd Wright Newsletter*, The Frank Lloyd Wright Association, Oak Park, IL (Second quarter 1979), p. 15.

object against another, of contrasting a large object with a smaller one, pitting red against blue and black...."⁴⁵

In the case of most clients, Wright preferred his own designs to owner-chosen objects. In *The Natural House* he wrote,

As for objects of art in the house, even in that early day they were *bêtes noires* of the new simplicity. If well chosen, all right. But only if each were properly digested by the whole....Better in general to design all as integral features.⁴⁶

By 1955 Wright was producing his own lines of accessories which he hoped would replace fussy designs by manufacturers such as Lenox. When Wright wasn't designing objects for clients, he was known to peruse arts and crafts stores for knick-knacks he judged to be appropriate in his rooms. As reported in *House Beautiful*, "[Wright] buys them [the objects] from artist-craftsmen through shops like America House and U.C. Morris....He likes wooden bowls and platters when the wood-grain enriches both form and shape (See Illus. 29). He likes basketry (See Illus. 20)—Victorian, American, Indian, modern Italian or Japanese...."⁴⁷

The Reisley house is filled with non-Wright-designed, even non-Wright-chosen, objects collected over the years by Mr. and Mrs. Reisley. Remarkably, these reflect the Reisleys' individual

⁴⁵ *House Beautiful* XCVIII, p. 362.

⁴⁶ Wright, *The Natural House*, p. 42-43.

⁴⁷ *House Beautiful* XCVIII, p. 260.

home-decorating flair while managing to assimilate entirely into Wright's preferred genre of decorative arts. Where some clients were concerned, as the Reisleys are proof, it appears that Wright was more lenient than his words of decorating caution suggest. It is likely that Wright would have ranked the majority of objects in the Reisley house living room among the "well chosen," according to his definition in *The Natural House*.

Textiles in the Living Room

The Reisleys were allowed free reign in choice of textiles as well as household objects. Roland and Ronny Reisley, and not Wright, chose all of the textiles currently in place in the house.⁴⁸ The living room rug by Mildred Resnik, previously mentioned (See Illus. 20), is similar to a rug in the living room at Taliesin East. According to Roland Reisley, Mrs. Reisley had input in the design of the rug.

Storrer considered the living room rug significant enough to mention it in *The Frank Lloyd Wright Companion*. The reference to the rug in that source, however, contradicts Roland Reisley's history of its fabrication. "The floor is covered by a hexagonal rug of unequal sides," Storrer reports, "made to Wright's design in Singapore."⁴⁹ Storrer's statement that Wright designed the rug is contrary to Reisley's assertion that Mildred Resnik is

⁴⁸ Interview with Roland Reisley, Spring 1997.

⁴⁹ William Allin Storrer, *The Frank Lloyd Wright Companion* (Chicago: University of Chicago Press, 1993), p. 333.

responsible for its design. Its supposed Singapore origins may indicate that Mrs. Reisley and Resnik did design the rug, but that it was fabricated abroad, perhaps for the purpose of reducing labor costs.

Assuming that Mrs. Reisley and Mildred Resnik are responsible for the design of the rug, their instincts were exemplary. Similar to textile designs by Wright, the design was conceived of as two-dimensional in its surface patterns, having "no illusion of perspective...meant to lie flat visually or against any plane surface."⁵⁰ The rug manages to be bold and unobtrusive in the space, yet at the same time a defining feature of the room.

Smaller textiles appear casual. Several throw pillows with patterns of triangles and rectangles (See Illus. 22 & 23), look as if they were tossed there as an afterthought. Yet every material, even as seemingly unimportant as the pillows' red and brown fabric with orthogonal shapes, is woven into the geometric whole of the room. As noted in *House Beautiful*, Wright's choice of textiles are "organic in character; that is, textures and patterns that sympathize in their own design and construction with the design and construction of the particular house they occupy and embellish."⁵¹

⁵⁰ *House Beautiful* XCVIII, p. 284.

⁵¹ Wright, *The Natural House*, p. 170.

Dining Area

Cypress surfaces in the dining room are the most striking aspect of the space. Board and batten walls and a board and batten ceiling outfitted with triangular recessed lighting (Illus. 30)—Wright believed that artificial lighting should be an integral part of the house—form a continuous surface interrupted only by the gentle profile of a built-in buffet along the east wall, also of cypress (Illus. 31).

The room divider designed by Mildred Resnik has storage cabinets on the side facing the dining room (See Illus. 32). The piece effectively differentiates dining area from living space. Constructed of cypress as well, it also serves to unify the dining area materially.

The use of terrazzo flooring in the dining room (Illus. 33) and bedroom extension shows Wright's willingness to depart from standard materials for Usonian houses, even where an important construction detail was concerned. The Reisleys chose terrazzo as an alternative to concrete throughout the extension.

The contrast between the mottled, reflective surface of the terrazzo and the uniform matte finish of the concrete, most apparent at the threshold of the extension, is a difference worthy of notice. The terrazzo is a deep crimson color which is

slightly dull in appearance, in spite of its polished surface. It is possible that the terrazzo was not intended to match the brownish-red of the concrete. Incidentally the two distinctly-colored materials, placed side by side, appear to clash. Brass floor dividers inserted between units at lines corresponding with the triangle module grid trim the space with festive metallic accents and match the brass hardware of the buffet and room divider. The decorative use of inlaid brass here is a unique feature which is appropriate in the space.

Broad views to the exterior open the dining room to the out-of-doors. A large picture window in the south wall (Illus. 34) offers a generous glimpse of green lawn and forest beyond. The patio along the south facade can be seen through a pair of French doors, also in the south wall adjacent to the square window (no image available).

As originally planned in the 1951 campaign, the dining table was designed by Wright with angled ends to fit into a niche along the north wall of the living room bordering the workspace (Illus. 35). A set of open shelves above the niche functioned as a screen separating the living room from the workspace. Roland Reisley explained that objects used in dining could be passed between the two spaces during meals. The shelves also provided additional surface area for dishes. "For the servantless housewife," *House Beautiful* describes Wright-designed kitchens,

Wright "opened the kitchen to make it an integral part of the house so that she would not be exiled from family life."⁵²

The original dining nook in the living room was replaced with a new, larger dining area in the 1956 wing (Illus. 36). A board and batten partition wall was constructed behind the open shelves to create a barrier between living room and workspace (Illus. 37).⁵³

Wright's original furniture plans for the dining room included sturdy, low-backed hexagonal chairs to match the dining table. The expense of fabricating these, however, was prohibitive to the Reisleys. Roland Reisley recalls Wright remarking, "Why don't you kids go out and buy some nice Danish chairs?" Following the suggestion, he and Mrs. Reisley chose six blue-upholstered chairs manufactured in Denmark. These are currently in place at the dining table Wright designed for the 1951 dining nook (See Illus. 33), which was relocated to the new space.⁵⁴

A buffet cabinet constructed with cypress veneer and a teak top provides ample storage space in what is currently the dining area (See Illus. 31). Distinctive brass butterfly pulls ornament the piece.⁵⁵ The cabinetry and hardware of the divider by Resnik,

⁵² *House Beautiful* XCVIII, p. 268.

⁵³ Interview with Roland Reisley, Spring 1997.

⁵⁴ Interview with Roland Reisley, Spring 1997.

⁵⁵ According to Roland Reisley, this type of hardware may no longer be in production. Interview with Roland Reisley, Spring 1997.

across the table at the opposite end of the dining area, matches the buffet (See Illus. 28). Both pieces are constructed with cypress veneer and have identical brass pulls. Two-tiered, half-hexagon end tables integral with the divider flank the central cabinets, giving it an open and streamlined appearance (See Illus. 25 & 26).

The Reisleys have grouped objects into appealing little clusters, as demonstrated by the arrangements on the dining table (See Illus. 33), buffet (Illus. 38), and divider (See Illus. 15). A triangular glass dish which Roland Reisley purchased from the U.C. Morris Shop while on business in San Francisco occupies center stage on the table, flanked by three beeswax candles of varying heights (See Illus. 33). Among the dozen or more objects lining the buffet are a farmhand's bell and hammer, four triangular prism candles, brass candle holders, a pyramidal basket filled with dried foliage, a gold-colored platter with scalloped edges propped upright against the wall, and a vase of a material resembling jade (See Illus. 30, 31, & 38). Two small wooden statues of deer stand before the picture window alongside a vase cut from stone containing pussy willows (See Illus. 34).

The objects arranged on the divider across the room are equally interesting. A tall, slender wooden pepper mill painted red and gold shares a corner of the divider with a small house plant and triangular crystal vase. The three objects are set against a

section of granite wall hung with a rectangular print which echoes the verticality of the arrangement (See Illus. 15). A wooden nut cracker and bowl, Oriental vase (See Illus. 28), and glass dish with candle holder in its center are spaced at even intervals across the surface of the divider.

The objects decorating the dining room appear diverse in their materials and origins. *House Beautiful* describes Wright's arrangements thus: "They [the objects] go together as if it were inevitable that they should, although they are widely separated objects in time, space, and cultures."⁵⁶ Such skillful combinations are characteristic of interiors decorated by Wright, but are seldom seen in those decorated by his clients, as in the case of the Reisley house.

⁵⁶ *House Beautiful* XCVIII, p. 361.

Workspace

Almost universally, Wright's designs for kitchens are compact and utilitarian. Even where the spaces are small, they are filled with visual interest. Wright maintained, "Everything in the Usonian kitchen should be (as it may so easily be) modern and attractive as such. Because it is incorporated into the living room, the kitchen (workspace) should be just as charming to be in or look at as the living room—perhaps more so."⁵⁷

The most distinctive feature of the workspace is the hexagonal window above the sink (Illus. 39). A play on a dominant geometric theme seen throughout the house, Wright's choice of windows here is functional as well as decorative. The room requires a large opening, provided by the hexagon, to permit a sufficient amount of natural light to enter the closed-in space.

Cabinets with cypress veneer in the workspace (Illus. 40) continue the use of wood surfaces, seen in the adjacent living room and dining area. Cabinet doors are fitted with brass piano-type hinges employed in cabinetry throughout the house. Wright's choice of linoleum for the countertops reflects his preference for modern materials, especially in kitchens. Although linoleum was not a new material when the workspace

⁵⁷ Wright, *The Natural House*, p. 166.

was executed in the 1950s, it was gaining in popularity as a durable and affordable surface finish.

Signs of aging are apparent in the workspace. The refrigerator manufactured by Sears dates to the 1950s. Some appliances, however, are second generation, such as a cooking range by General Electric which replaced an original model by Crossley in c. 1970.

Materials—Cypress, linoleum, and concrete—remain in fair condition. The cypress veneer of the cabinets especially has matured gracefully. According to Reisley, he and Mrs. Reisley favored the use of cypress on the workspace cabinets partly because of its timeless quality.

The greatest drawback of the workspace is the fact that it is no longer open to living room. Regrettably, the board and batten partition wall constructed behind the shelves (See Illus. 37) creates a barrier between the two areas. The cook remains within earshot of the living room, but the possibility of conversation between living room and kitchen has been eliminated. The kitchen appears to be adequately comfortable for extensive cooking, if Mrs. Reisley's frequent use of the space is any indication. According to Roland Reisley, cooking is a hobby of Mrs. Reisley's. During a fall visit to the house, Mrs. Reisley even mentioned a Thanksgiving menu she was planning for vegetarian dinner guests.

Study

At first glance the study appears less remarkable than other rooms in the Reisley house. The efficiency of its design, however, reflects Wright's truly remarkable skill at creating livable arrangements for compact rooms. Until 1956 the study was used as a second bedroom in the original 1951 wing. After the extension was completed five years later, the space was no longer needed as a bedroom.

The double upholstered seat immediately to the right of the door of the study is roomy and designed for comfortable reclining. The profile of the room creates a setback or mini-alcove into which the built-in seat with shelves fits snugly (Illus. 41 & 42). The double sofa is a cozy and inviting nook for quiet reading or television watching—The favorite spot of Mr. or Mrs. Reisley, judging from the assorted reading materials which oftentimes litter its surface.

Wright cut a niche into the masonry wall on the south side of the room to hold a 27-inch television set (Illus. 43), eliminating the need to occupy limited floor space with a stand. Evidently, Wright did not insist on concealing t.v.s. A television set of such large dimensions was not yet available on the market in 1951. Roland Reisley's work in the electrical and engineering trade, however, afforded him insider's knowledge that the Raytheon

Company would be introducing a 27-inch model in the near future.

The floor space beneath the television niche is a sensible place for a small magazine rack. A sweeping line of vision descends from the t.v. to the angled stand below, then sidelong to an upholstered rocker with a soft pattern of circular shapes (See Illus. 43). A few well-chosen objects, such as a hand-woven basket perched on a built-in shelf in the stone hearth (Illus. 44), and a delicate oval footstool with needlepoint upholstery (See Illus. 42), create a lived-in atmosphere.

A custom-designed triangular desk is wedged neatly into the far corner of the room together with a three-legged adaptation of a Windsor chair, complete with triangular seat (See Illus. 42). That the desk and chair fit perfectly into this groove is apparent in the way the corner accommodates the table and compact seat; both are tucked efficiently into the angled space. The arrangement demonstrates Wright's adept space-saving skills, his habit of creating innovative plans for rooms which do not conform to the standard orthogon.

In a 1979 issue of the *Frank Lloyd Wright Newsletter*, David G. De Long suggests guiding principles which may have influenced Wright's design of interiors, specifically his plan for Browne's Bookstore in Chicago, now demolished. De Long explains, "Each part is considered as contributing to the whole effect and even

most moveable accessories are assigned a precise location, resulting in a fixity of parts that reinforces the pervasive sense of unity."⁵⁸ In the example of the study in the Reisley house, free-standing furniture such as the desk, chair and rocker, rather than being loose and interchangeable like the hassocks and table halves in the living room (See discussion of furniture in The "Room for Living"), occupy fixed positions in the room. The study is obviously smaller than the commercial space of Browne's Bookstore, but the treatment of objects is not entirely dissimilar to that which De Long observes in the store.

Textiles in neutral colors consistent with the reds and natural tones seen in the living room and master bedroom give the study a subdued, plush appearance. The material hung as curtains on the French doors and casement windows, both thermal glass, is identical to that used for curtains throughout the house. The Reisleys chose an off-white material consisting of a broad textured weave of square stitches which resembles netting (Illus. 45). The Reisleys' preference for opened curtains may account for the beige color of the once-gold carpeting in this location.

Carpet covers the floor in the hall, study, and master bedroom. The gold shag resembles Wright's choice of carpet at Taliesin, although as mentioned above, the cut pile has faded to a beige color. Roland Reisley reports that although the carpet has

⁵⁸ De Long, p. 12.

already been replaced once, it may need to be replaced a second time. The original carpeting installed in the 1950s was replaced in c. 1989 with a different brand. The Reisleys tried their best to replicate the original, but despite the ^{expense} ~~costliness~~ of the new carpet, Roland Reisley admits disappointment at not finding a better match for the color of the original carpeting. Reisley also reports difficulties in cleaning the new carpet.

Master Bedroom

As pertains to both plan and furniture, the master bedroom is possibly the most conventional room executed as part of the 1951 campaign. A free-standing rectangular bureau constructed with cypress veneer, simple and linear in its design, stretches below a series of casement windows fitted with thermal glass in the building's west facade wall. Also of immediate notice upon entering the room is an ornamental wood circle decorating the center of the casement directly opposite the door (Illus. 46). Assorted personal objects lining the surface of the bureau include various small boxes and containers, framed pictures of family members, (See Illus. 45), and even a photograph of the master himself with a wooden cane and top hat. Two sets of closet doors, also finished with cypress plywood, conceal additional storage space. These are fitted with brass piano-type hinges and brass pulls similar to those seen in the cabinetry of the living room and dining area (Illus. 47).

A low-to-the-ground built-in bed of cypress occupies a central, dominating position in the room. Characteristic of Wright's beds, the headboard of this design is integral with the piece rather than detachable. Headboard and open shelves directly meet the masonry structure of the hearth, another instance of wood and stone joined together in construction (Illus. 48).

Wright was predisposed to fabrics dyed in natural colors with interesting geometric patterns and distinctive textures. While he did not mandate that every textile in place in his interiors be "home-spun," Wright did tend toward decorating rooms with organic fabrics. The Reisleys would be doing the room a service to replace the machine-made bed comforter currently in place with an organic cotton or wool blanket which better reflects the spirit of Wright's materials. A heavy wool Aztec blanket with geometric shapes might be a nice substitute. Perhaps even a solid wool or cotton cover would do. The plaid woolen blanket draped over the chair at the hearth side is a nice decorative detail (Illus. 49).

Although the master bedroom does not contain the most valuable or interesting objects in the house, such as the artwork from far-away places displayed in the living room, the space does have a unique and personalized aspect in keeping with Wright's philosophy of living. As noted in *House Beautiful*,

There is a quiet and lovely story of enrichment to be told about the homes of Frank Lloyd Wright. It is the story of small objects, personal possessions, beautiful and useful items in the daily life...It is the story of the art of home-making that is, in itself, a work of art.⁵⁹

A white plastic digital clock-radio on the built-in night stand (Illus. 50), a rotary telephone (Illus. 51), and other mass-manufactured objects in the master bedroom have a certain

⁵⁹ *House Beautiful* XCIII, p. 259.

utilitarian charm, even if they are not "beautiful" by any stretch of the imagination. Collectively, the objects in Wright's "less important" spaces share an Americaness, a made-in-the-U.S.A.-ness, which rings true of the Usonian house. "Every house worth considering as a work of art must have a grammar of its own," Wright maintained. "All belongs together; looks well together because all together are speaking the same language."⁶⁰ Perhaps the language of the master bedroom, then, is one of every day use, the freedom of the middle-class American home owner rather than the stylized imprisonment of the elite.

⁶⁰ Wright, *The Natural House*, p. 181.

Master Bath

Wright thought that the functional aspect of the bathroom should not detract from its potential for beauty. He believed that every space, no matter how seemingly unimportant, held a significant role in the overall design of a house. Wright thus argued that the single bathroom, "for the sake of privacy" should not be "immediately connected to any single bedroom," but instead should be a separate, self-contained space. Bathrooms opening directly into a bedroom which are shared by more than one person, he maintained, "have been badly overdone."⁶¹

Accordingly, Wright located the master bath in the Reisley house immediately next door to the master bedroom, but designed it as a completely separate space accessed from the hall instead of the master bedroom (See Illus. 35).

Surfaces in the master bath are consistent with materials found throughout the house, most strikingly seen in the use of board and batten cypress paneling (Illus. 52). Storrer even mentions the cypress-lined shower as a distinctive feature of the house in *The Frank Lloyd Wright Companion*.⁶² True to his character, Wright did not fall prey to "fashionable" veneers of the fifties in

⁶¹ Wright, *The Natural House*, p. 89.

⁶² William Allin Storrer, *The Frank Lloyd Wright Companion* (Chicago: University of Chicago Press, 1993), p. 333.

designing the master bath of the Reisley house. "Equally impatient with 'period' paneling or antiseptic white enamel," *House Beautiful* noted, "Wright's bathrooms are always direct, functional."⁶³

The room has a triangular plan worked into the larger framework of the triangle unit module (See Illus. 35). As an alternative to standard fixtures (which would have been ill-suited in the space) Wright installed a cabinet with sink basin in the shape of a parallelogram, and a half-hexagon bathtub to fit the corners of the room (See Illus. 35). The rust-colored hexagon sink by Kohler Co. is set into a countertop finished with hexagonal bathroom tiles (Illus. 53); the ensemble is a clever play on a dominant geometry found throughout the house.

Even though the master bath is primarily a utilitarian space, it has not escaped Mrs. Reisley's creative touch. Glass perfume bottles sit prettily arranged on the counter surface before the mirror (Illus. 54), another example of personal objects behaving like artwork in a Wright interior. As observed in *House Beautiful*, "Because the everyday useful objects in Wright's homes are chosen for their beauty, they are not put away behind cupboard doors, but stand out always in view, to be recomposed into new groupings and arrangements after every use."⁶⁴

⁶³ *House Beautiful* XCVIII, p. 269.

⁶⁴ *House Beautiful* XCVIII, p. 260.

Bedroom Extension, 1956

Although it was executed five years after construction began in 1951, the bedroom extension is part of the original plan of the Reisley house. According to Roland Reisley, work was started in the fall of 1956. By the spring of 1957 the rooms were inhabitable.

Bruce Brooks Pfeiffer notes the following as pertains to the later building campaign of the bedroom extension:

Frequently Mr. Wright referred to a house plan, or the addition to a house plan, as 'Pollywog type'. By this he meant that the main body of the plan contains, like the main body of the pollywog itself, the central amenities of the building—living, dining, kitchen, sometimes even the master bed-room and bath, with the tail reserved for children's bedrooms to be built at the same time or at a later date....by planning, from the beginning, for future extensions always possible, the whole opus, when finished, still has a cohesive and organic quality. The Roland Reisley house is just such a case, the original plan compact yet flexible, the later addition of three bedrooms, bath and playroom simply extending as a natural projection.⁶⁵

As originally planned in 1951, Wright designed the bedroom extension to consist of three bedrooms, one playroom, and two-and-one-half baths, as described in the passage above (See Illus. 35). The design was subsequently modified to eliminate the playroom at the east end termination, replacing it with a fourth bedroom and storage area in the same location. As built,

⁶⁵ Bruce Brooks Pfeiffer, *Frank Lloyd Wright Monograph, VIII, 1951-1959* (Tokyo: A.D.A. Edita, c. 1984), p. 4.

the space originally intended as a playroom was subdivided with a partition wall to create a servant's room and a walk-in storage closet.

With the exception of a failure in the underfloor heating system, which until recently fixed was non-operational, (See Appendix: Heating, Ventilating, and Air Conditioning, 15500) the Reisleys are satisfied with the bedroom extension. Roland Reisley says that although the rooms completed during the first building program in 1951 make up the primary living space in the house, the addition of the bedroom extension provides needed room for guests and other activities. Reisley has converted one room into a home-office, where he is currently writing a documentary about Usonia.

Conclusion

The Reisley house as a Unique Case Study of a Usonian house

The Reisleys' status as original Wright clients, and full-time residents and owners of the Reisley house since the completion of the first building campaign in 1951, makes the property a unique case study of a Usonian house. To date, most if not all surviving Usonian houses built by Wright during the late phase of his career are occupied by second or third generation owners.

Roland Reisley is a member of the Frank Lloyd Wright Building Conservancy and a prominent figure among Wright preservationists. Reisley is presently writing a documentary on the history of Usonia II, which he plans to publish in the near future. Outside of frequent participation in conferences and seminars dealing with the preservation of Wright properties, and independent scholarship, Reisley has been working with the Frank Lloyd Wright Building Conservancy to research legal measures which may be implemented to prevent future changes to the Reisley house which may detract from its authenticity as a unique work by Wright.

Landmark Status and Easements

Landmark status and preservation easements are two legal avenues currently being investigated to achieve the goal of sustaining the authenticity of the property. Unless a Wright property is listed on a local register of historic places—Which may afford it protection by a local Historical Commission—No legal measures are readily available to prevent alterations. As is the case with all historic properties, houses by Wright included, National Register status does not prohibit such changes from being implemented.

I interviewed Roland Reisley and Stephan Nagle of the Law Offices of Steven Small in Boston regarding easements as they can be used to prevent future changes to the Reisley house. Nagle is a member of the Frank Lloyd Wright Building Conservancy who is knowledgeable in the field of real estate law as it applies to historic preservation. The Executive Director of the Conservancy, Sara-Ann Briggs, has worked closely with Nagle. According to Reisley and Nagle, easements are a potentially viable tool for preventing changes to both the exterior and interior of the Reisley house. When donated to an organization such as the Conservancy by a property owner, an easement may stipulate changes which are permissible in the future. Easement donations are advantageous to owners, too, who may be eligible for tax credits from their donations.

In terms of real estate dollars, there is a danger associated with easement status. The value of a property often decreases when prospective buyers perceive the impossibility of making improvements which will increase that property's market value in the future. Despite this real drawback, I recommend obtaining easements wherever possible which will stipulate against changes to both the exterior and interior of the Reisley house which may detract from the building's authenticity, as easements are an effective and long-term means of setting into place measures which will prevent such alterations.

Future Ownership Status

I was not able to recommend a specific future course of ownership for the Reisley house as a conclusion to this study. For the purpose of evaluating the successes and failures of administration of other Usonian properties by Wright, I chose the Isadore J. and Lucille Zimmerman house in Manchester, New Hampshire, 1950, and the Pope-Leighey house in Falls Church, Virginia, 1940, as case studies for examining the care and maintenance of other Usonian properties.

I concluded from studying the Zimmerman and Pope-Leighey houses that exclusive ownership and management of the Reisley house by a non-profit organization, such as in the case of the Currier Gallery of Art's administration of the Zimmerman house

since 1988, would result in a loss of the "lived-in" aspect of the Reisley house so vital to its authenticity—Its authenticity being not the building's significance as a material work by Wright only, but equally important, its embodiment of the Usonian way of life which Wright as a visionary promoted. Discontinued use of the Zimmerman house as a private residence may reduce stress to the building fabric, specifically where wear and tear on interior fabric occurs from continued day-to-day use, but terminated private ownership status has resulted in a permanent loss of the property's historic character. The Zimmerman house thus survives as an authentic work by Wright, but can no longer qualify, in the true sense, as a Usonian home because it is not lived-in as Wright intended the Usonian houses to be. I do not recommend a similar future for the Reisley house.

An agreement resembling the joint ownership arrangement between the National Trust for Historic Preservation and Marjorie Leighy, whereby Mrs. Leighy was allowed to remain in residence on the property with restrictive conditions in exchange for ongoing maintenance, will be a better solution for the Reisley house. Continued use of the property as a private residence, at the very least on a part-time basis, is a crucial criterion for sustaining the "lived-in" aspect of the house and continuing its history as an authentic Usonian design by Wright intended for private residential use.

APPENDIX

BUILDING SPECIFICATIONS AND MAINTENANCE

Identifying structural and material features of a building and site can help establish priority issues of a long-term maintenance program, thereby ensuring that time and resources are directed efficiently toward the most crucial needs of a property. Published guidelines for preparing building specifications were studied for this report with the aim of identifying all important structural and material aspects of the Reisley house and site for the purpose of beginning a long-term maintenance program.

The CSI/CSC Masterformat was the principal source used for this end. The CSI/CSC Masterformat was developed by the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) in 1963.⁶⁶ The Masterformat was chosen for this study above other specification-writing guidelines because of the comprehensive scope of its categories. According to Harold Rosen, who studied specification formats for his book, *Construction Specifications Writing: Principles and Procedures*,

The CSI Format for Construction Specifications, which has been updated several times since its inception in 1963, provides a uniform system for the location of technical sections within a bound volume of the project manual together with a five-digit permanent number for each section. The most recent edition of the *CSI Format for Construction Specifications* is the *Masterformat* published by CSI and CSC (Construction Specifications Canada).⁶⁷

⁶⁶ The copyright owner of the Masterformat is the Construction Specifications Institute (CSI), Alexandria, VA.

⁶⁷ Harold J. Rosen (PE, FCSI) and Tom Heineman (AIA, FCIS, CCS), *Construction Specifications Writing: Principles and Procedures*, third edition (New York: John Wiley & Sons, 1990) p. 14.

Outlined below are the major categories in the CSI/CSC Masterformat:

Division 1—General Requirements

01010	Summary of Work
01020	Allowances
01025	Measurement and Payment
01030	Alternates/Alternatives
01035	Modification Procedures
01040	Coordination
01050	Field Engineering
01060	Regulatory Requirements
01070	Identification Systems
01090	References
01100	Special Project Procedures
01200	Project Meetings
01300	Submittals
01400	Quality Control
01500	Construction Facilities and Temporary Controls
01600	Material and Equipment
01650	Facility Startup/Commissioning
01700	Contract Closeout
01800	Maintenance

Division 2—Sitework

02010	Subsurface Investigation
02050	Demolition
02100	Site Preparation
02140	Dewatering
02150	Shoring and Underpinning
02160	Excavation Support Systems
02170	Cofferdams
02200	Earthwork
02300	Tunneling
02350	Piles and Caissons
02450	Railroad Work
02480	Marine Work
02500	Paving and Surfacing
02600	Utility Piping Materials
02660	Water Distribution
02680	Fuel and Steam Distribution
02700	Sewerage and Drainage
02760	Restoration and Underground Pipe
02770	Ponds and Reservoirs
02780	Power and Communications
02800	Site Improvements
02900	Landscaping

Division 3—Concrete

03100	Concrete Formwork
03200	Concrete Reinforcement
03250	Concrete Accessories
03300	Cast-in-Place Concrete
03370	Concrete Curing
03400	Precast Concrete
03500	Cementitious Decks and Toppings
03600	Grout
03700	Concrete Restoration and Cleaning
03800	Mass Concrete

Division 4—Masonry

04100	Mortar and Masonry Grout
04150	Masonry Accessories
04200	Unit Masonry
04400	Stone
04500	Masonry Restoration and Cleaning
04550	Refractories
04600	Corrosion Resistant Masonry
04700	Simulated Masonry

Division 5—Metals

05010	Metal Materials
05030	Metal Coatings
05050	Metal Fastening
05100	Structural Metal Framing
05200	Metal Joists
05300	Metal Decking
05400	Cold Formed Metal Framing
05500	Metal Fabrications
05580	Sheet Metal Fabrications
05700	Ornamental Metal
05800	Expansion Control
05900	Hydraulic Structures

Division 6—Wood and Plastics

06050	Fasteners and Adhesives
06100	Rough Carpentry
06130	Heavy Timber Construction
06150	Wood and Metal Systems
06170	Prefabricated Structural Wood
06200	Finish Carpentry

06300	Wood Treatment
06400	Architectural Woodwork
06650	Solid Polymer Fabrications
06500	Structural Plastics
06600	Plastic Fabrications

Division 7—Thermal and Moisture Protection

07100	Waterproofing
07150	Dampproofing
07180	Water Repellents
07190	Vapor Retarders
07195	Air Barriers
07200	Insulation
07240	Exterior Insulation and Finish Systems
07250	Fireproofing
07270	Firestopping
07300	Shingles and Roofing Tiles
07400	Manufactured Roofing and Siding
07480	Exterior Wall Assemblies
07500	Membrane Roofing
07570	Traffic Coatings
07600	Flashing and Sheet Metal
07700	Roof Specialties and Accessories
07800	Skylights
07900	Joint Sealers

Division 8—Doors and Windows

08100	Metal Doors and Frames
08200	Wood and Plastic Doors
08250	Door Opening Assemblies
08300	Special Doors
08400	Entrances and Storefronts
08500	Metal Windows
08600	Wood and Plastic Windows
08650	Special Windows
08700	Hardware
08800	Glazing
08900	Glazed Curtain Walls

Division 9—Finishes

09100	Metal Support Systems
09200	Lath and Plaster
09250	Gypsum Board
09300	Tile
09400	Terrazzo

09450	Stone Facing
09500	Acoustical Treatment
09540	Special Wall Surfaces
09545	Special Wall Surfaces
09550	Wood Flooring
09600	Stone Flooring
09630	Unit Masonry Flooring
09650	Resilient Flooring
09680	Carpet
09700	Special Flooring
09780	Floor Treatment
09800	Special Coatings
09900	Painting
09950	Wall Coverings

Division 10—Specialties

10100	Visual Display Boards
10150	Compartments and Cubicles
10200	Louvers and Vents
10240	Grilles and Screens
10250	Service Wall Systems
10260	Wall and Corner Guards
10270	Access Flooring
10290	Pest Control
10300	Fireplaces and Stoves
10340	Manufactured Exterior Specialties
10350	Flagpoles
10400	Identifying Devices
10450	Pedestrian Control Devices
10500	Lockers
10520	Fire Protection Specialties
10530	Protective Covers
10550	Postal Specialties
10600	Partitions
10650	Operable Partitions
10670	Storage Shelving
10700	Exterior Protection Devices for Openings
10750	Telephone Specialties
10800	Toilet and Bath Accessories
10880	Scales
10900	Wardrobe and Closet Specialties

Division 11—Equipment

11010	Maintenance Equipment
11020	Security and Vault Equipment
11030	Teller and Service Equipment
11040	Ecclesiastical Equipment

11050	Library Equipment
11060	Theater and Stage Equipment
11070	Instrumental Equipment
11080	Registration Equipment
11100	Mercantile Equipment
11090	Checkroom Equipment
11100	Commercial Laundry and Dry Cleaning Equipment
11120	Vending Equipment
11130	Audio-Visual Equipment
11140	Vehicle Service Equipment
11150	Parking Control Equipment
11160	Loading Dock Equipment
11170	Solid Waste Handling Equipment
11190	Detention Equipment
11200	Water Supply and Treatment Equipment
11280	Hydraulic Gates and Valves
11300	Fluid Waste Treatment and Disposal Equipment
11400	Food Service Equipment
11450	Residential Equipment
11460	Unit Kitchens
11470	Darkroom Equipment
11480	Athletic, Recreational, and Therapeutic Equipment
11500	Industrial and Process Equipment
11600	Laboratory Equipment
11650	Planetarium Equipment
11660	Observatory Equipment
11680	Office Equipment
11700	Medical Equipment
11780	Mortuary Equipment
11850	Navigation Equipment
11870	Agricultural Equipment

Division 12—Furnishings

12050	Fabrics
12100	Artwork
12300	Manufactured Casework
12500	Window Treatment
12600	Furniture and Accessories
12670	Rugs and Mats
12700	Multiple Seating
12800	Interior Plants and Planters

Division 13—Special Construction

13010	Air Supported Structures
13020	Integrated Assemblies
13030	Special Purpose Rooms
13080	Sound, Vibration, and Seismic Control
13090	Nuclear Reactors

13120	Pre-Engineered Structures
13150	Aquatic Facilities
13175	Ice Rinks
13180	Site Constructed Incinerators
13185	Kennels and Animal Shelters
13200	Liquid and Gas Storage Tanks
13220	Filter Underdrains and Media
13230	Digester Covers and Appurtenances
13240	Oxygenation Systems
13260	Sludge Conditioning Systems
13300	Utility Control Systems
13400	Industrial and Process Control Systems
13500	Recording Instrumentation
13550	Transportation Control Instrumentation
13600	Solar Energy Systems
13700	Wind Energy Systems
13750	Cogeneration Systems
13800	Building Automation Systems
13900	Fire Suppression and Supervisory Systems
13950	Special Security Construction

Division 14—Conveying Systems

14100	Dumbwaiters
14200	Elevators
14300	Escalators and Moving Walks
14400	Lifts
14500	Material Handling Systems
14600	Hoists and Cranes
14700	Turntables
14800	Scaffolding
14900	Transportation Systems

Division 15—Mechanical

15050	Basic Mechanical Materials and Methods
15250	Mechanical Insulation
15300	Fire Protection
15400	Plumbing
15500	Heating, Ventilating, and Air Conditioning
15550	Heat Generation
15650	Refrigeration
15750	Heat Transfer
15850	Air Handling
15950	Air Distribution
15990	Testing, Adjusting, and Balancing

Division 16—Electrical

16050	Basic Electrical Materials and Methods
16200	Power Generation—Built-up Systems
16300	Medium Voltage Distribution
16400	Service and Distribution
16500	Lighting
16600	Special Systems
16700	Communications
16850	Electrical Resistance Heating
16900	Controls
16950	Testing

The following record was organized according the CSI/CSC Masterformat.

Division 1—General Requirements

Pertains primarily to new construction. The category References (01090) may apply to maintenance and repair projects.

References

01090

Execute all maintenance and repair projects with the assistance of a licensed architect and/or contractor with reference(s) demonstrating expertise in methods of construction and familiarity with materials used by Frank Lloyd Wright in construction of the Reisley house.

Create a working history as a reference for architects and/or contractors. Include the following information: 1) Names, current addresses, and current telephone numbers of all architectural offices and/or contractors commissioned for past, current, and future projects. 2) A description of the work executed for each project. 3) Start and finish dates for each project. 4) Any structural or conditions notes made by architects or contractors during the execution of projects. 5) All relevant owner information.⁶⁸

Division 2—Sitework

Subsurface Investigation

02010

⁶⁸ For ideas on format see the Frank Lloyd Wright Building Conservancy and Catherine J. Goldberg, *Properties Database: Completed Survey of the Roland & Ronny Reisley house*, 1996 (Appendix 2 of this report).

Foundation consists of 3 1/2 inches concrete mat over 6 inches broken stone. Trenches pitched to drain underneath broken stone (See Illus. 39). Wright indicated the following in final plans, "bottoms of all broken stone trenches are pitched to drain water away from building."⁶⁹

Subsurface investigations may be necessary if water is detected at or near foundation. Water directly beneath foundation in broken stone may indicate partly or wholly-obstructed trench.⁷⁰
See also Sewerage and Drainage (02700).

Demolition

02050

Removal of existing structures on a site prior to new construction. Currently not applicable.

Site Preparation

12100

Excavation, grading, filling. The following was indicated by Wright in final plans: 1) Remove trees, rocks and other obstacles on building site prior to construction. 2) Remove six-inch layer of topsoil on building site prior to construction.⁷¹

Dewatering

02140

Removal of water from a site prior to excavation work below the water table. Currently not applicable.

⁶⁹ Frank Lloyd Wright, Instructions for Concrete and Masonry, Sheet No. 2 of Final Plans for the Roland and Ronny Reisley House, 1951.

⁷⁰ Methods of conducting subsurface investigations were not studied for this report.

⁷¹ Frank Lloyd Wright, Instructions for Excavation, Grading, and Filling, Sheet No. 1 of Final Plans for the Roland and Ronny Reisley House, 1951.

Shoring and Underpinning

01250

Shoring is the use of temporary steel or timber supports in construction. Underpinning is the introduction of new foundations beneath an existing structure. Currently not applicable.⁷²

Excavation Support Systems

02160

Foundations dug prior to new construction. Currently not applicable.

Cofferdams

02170

Not applicable.

Earthwork

02200

Below-grade concrete walls were poured underneath the foundation of basement and workspace. Both walls were poured against earth banks (Illus. 55).

Tunneling

02300

Not applicable.

Piles and Caissons

02350

Devices used to support temporary foundations at construction sites on or near bodies of water. Not applicable.

⁷² Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), pp. 793 & 797.

Railroad Work

02450

Construction on or near railroad tracks. Not applicable.

Marine Work

02480

Construction at or near a coastal site. Not applicable.

Paving and Surfacing

12500

Asphalt surface on drive and carport (Illus. 56). The drive and carport have been resurfaced three times.⁷³

See Special Systems (16600) for electric heating system underneath asphalt surface.

Utility Piping Materials

02600

Current conditions of piping materials were not documented for this report. This report recommends regular inspection of exposed piping (especially iron pipes for corrosion and leaks). Replacement may avoid advanced deterioration and resulting damage to building. The high water content of soil in the northeast, and typical cold weather conditions, are potential hazards to subfloor piping.

Water Distribution

02660

The water supply for the Reisley house is a public supply shared by the town of Mount Pleasant. The source for the supply is the Croton aqueduct in Westchester County, New York.⁷⁴

⁷³ Interview with Roland Reisley, Spring 1997.

⁷⁴ Interview with Roland Reisley, Fall 1996.

Fuel and Steam Distribution

12680

This report recommends regular inspection of fuel tanks, and yearly inspection and cleaning of furnace.

Sewerage and Drainage

02700

Agricultural drains 6 inches in diameter were installed in at least two locations: 1) Footing of below-grade wall underneath basement foundation. 2) Footing of below-grade wall underneath workspace foundation.

Excess water in landscaped areas of site may indicate partly or wholly-obstructed agricultural drains. See also Subsurface Investigation (02010).

Restoration and Underground Pipe

02760

See Heating, Ventilating, and Air Conditioning (15500).

Ponds and Reservoirs

02770

The Pocantico Lake and the Pocantico River are in the town of Mount Pleasant. The Kensiko Reservoir is less than a mile from Usonia. There are no charted bodies of water in Usonia itself.

Power and Communications

02780

See Special Systems (16600).

Landscaping

02900

The landscape plan of the Reisley house site was created by Arthur Edwin Bye, a Professor Emeritus at Pennsylvania State University.⁷⁵

Below is a partial list of plants currently on the property:

- 1) Juniper (Illus. 57).
- 2) Mountain laurel (Illus. 58).
- 3) Pachysandra (Illus. 59).
- 4) Climbing ivy.

Distinctive stone features on the property include the following:

- 1) A retaining wall with a circular niche for tree at the west facade. A tree planted in this location was removed at an unknown date (Illus. 60).
- 2) A triangular planting area in a masonry wall at the north facade.
- 3) Angled steps at the northern boundary of the property.

Division 3—Concrete

Concrete Formwork

03100

A system of supports used to hold the shape of poured concrete during the curing process. Currently not applicable.

Concrete Reinforcement

(03200)

(03210) Reinforcing Steel. Not applicable.

(03220) Welded Wire Fabric. Wright's instructions for lightwire fabric were as follows: "Concrete mat shall be reinforced with 6 X 6 #10 welded lightwire fabric, whether indicated on drawing or not."⁷⁶

⁷⁵ Interview with Roland Reisley, Spring 1997.

⁷⁶ Frank Lloyd Wright, Instructions for Concrete and Masonry, Sheet No. 2 of Final Plans for the Roland and Ronny Reisley House, 1951.

For weight and dimensions of wire fabric currently available on the market see "Sectional Area and Weight of Welded Wire Fabric," Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 444.

Concrete Accessories

03250

Not applicable.

Cast-In-Place Concrete

03300

Below-grade concrete walls (See Illus. 55). Wright's instructions for basement walls specify that mix consists of one part Portland cement to two parts "clean shard sand," to 3 1/2 parts clean broken stone or gravel, with "concrete walls to be thoroughly puddled."⁷⁷ See Earthwork (02200).

Wright's instructions specify that foundation mix consists of Portland cement, sand and broken stone, integrally finished with A.C. Horn Company colorundum floor color for concrete, and "Concrete floors shall be marked 3/4" deep on lines corresponding to unit lines of drawings."⁷⁸

Flagstone of hearths in living room, study, and master bedroom are laid over a 4-inch-thick concrete bed.⁷⁹ See Fireplaces and Stoves (10300).

Foundations below masonry walls consist of running concrete footing 9 inches deep by 14 inches wide, poured over 16-inch-deep layer of broken stone footing.⁸⁰

Concrete Curing

03370

Hydradion of newly-poured concrete. Currently not applicable.

Precast Concrete

03400

⁷⁷ Wright, Instructions for Concrete and Masonry.

⁷⁸ Wright, Instructions for Concrete and Masonry.

⁷⁹ Wright, Instructions for Concrete and Masonry.

⁸⁰ Wright, Instructions for Concrete and Masonry.

Concrete building materials which are cast and allowed to set off site.
Not applicable.

Cementitious Decks and Toppings

03500

The surface of the concrete mat foundation throughout was finished with a steel trowel and marked with 3/4 inch deep lines corresponding to the lines of the triangle unit module. See Cast-In-Place Concrete (03300).

Grout

03600

Grout on concrete was not studied for this report. May be applicable.

Concrete Restoration and Cleaning

03700

Wright's instructions for maintaining concrete floor surfaces were as follows: "Over all concrete floor areas provide and apply 'Hornlux' as manufactured by the R.C. Horn Co., L.I. City, New York. After concrete has thoroughly dried apply as directed by the manufacturer and allow to dry overnight. Provide and apply one coat Johnson Paste Traffic Wax as directed by manufacturer and buff to polish."⁸¹

The Reisleys do not apply traffic wax or the equivalent to floor surfaces on a frequent basis. Roland Reisley says Mrs. Reisley prefers a slightly dull finish to a high-gloss finish.

This report recommends periodic inspection of concrete foundation for cracking, areas of faded pigment, efflorescence, and worn sections at exterior with aggregate showing.

Cracking may result from freezing and thawing or surface weathering, but at the Serlin house severe cracking has occurred in the foundation inside that building. Michael Pinkus, the current owner of the Serlin house, suspects that corroded raduct used in the underfloor heating system may cause cracking in the foundation.

In *Fundamentals of Building Construction*, Edward Allen describes weaknesses in concrete caused by aggregate: "An aggregate that is dusty or muddy will contaminate the cement paste with inert particles that

⁸¹ Frank Lloyd Wright, Instructions for Concrete and Masonry, Sheet No. 2 of Final Plans for the Roland and Ronny Reisley House, 1951.

weaken it, and an aggregate containing any of a number of chemicals from sea salt to organic compounds can cause problems."⁸²

Mass Concrete

03800

Concrete mat foundation. See Cast-In-Place Concrete (03300)

Division 4—Masonry

Mortar and Masonry Grout

04100

Wright specified the following ingredients for mortar mix for masonry: "One part Portland cement to 3 parts clean sharp sand." Mortar mix for footings is "One part cement to 3 parts sand, to 4 parts broken stone or gravel." Joints of flagstone floors and terraces are "One part Portland cement to two parts clean sharp sand."⁸³ See Stone (04400).

The stone chimneys above the living room and study were re-pointed recently. The work was performed by a local mason named Silvio Ruta of New Rochelle, New York. Roland Reisley does not remember the exact date of the project.

Reisley held a consultation with a conservationist named Norman Weiss (WASA) prior to the starting date of the project to identify an appropriate mortar type which would match the original pointing.

The ASTM identifies four basic mortar types. According to Edward Allen, mortar color has a significant impact on the appearance of masonry in a building: "Two colors of masonry cement are commonly available: *light*, which cures to about the same light gray color as ordinary concrete blocks, and *dark*, which cures to a dark gray. Other colors are easily produced by the mason, either by adding pigments to the mortar at the time of mixing, or by purchasing dry mortar mix that has been custom colored at the plant."⁸⁴

This report recommends these guidelines for recreating original mortar:

⁸² Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 436.

⁸³ Frank Lloyd Wright, Instructions for Concrete and Masonry, Sheet No. 2 of Final Plans for the Roland and Ronny Reisley House, 1951.

⁸⁴ Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 261.

- 1) Locate a section of masonry on the building with original mortar. Using a chisel or other small instrument, remove a small section of original mortar from an accessible surface joint.
- 2) Through consultation with a masonry expert or laboratory analysis, identify RSTM mortar type of sample. Determine sand type and if any pigments were used in mix.
- 3) Recreate original mortar using approximate ingredients and proportions of mix.
- 4) Construct a sample masonry wall, applying replica mix to surface joints. Allow mortar to set completely. Compare color on test wall with original wall.
- 5) Repeat step 4 until desired color is obtained.

Grout:

When used in masonry construction, grout is applied between ashlar to increase the load-bearing capacity of a wall. Grout in masonry construction was not studied for this report. May be applicable.

Masonry Accessories

04150

Anchors, tie systems, control joints, etc. Not applicable.

Unit Masonry

04200

(04210) Clay Unit Masonry. Not applicable.

(04220) Concrete Unit Masonry. Not applicable.

(04230) Reinforced Unit Masonry. Not applicable.

(04270) Glass Unit Masonry. Not applicable.

Stone

04400

(04410) Rough Stone. Masonry walls are constructed of rough-cut granite (See Illus. 16). According to Roland Reisley, the granite used for masonry construction in his house and all houses in Usonia was obtained locally from a quarry in Westchester County, New York. The color of the granite is

gray mixed with brown. (For general views of exterior showing masonry, see Illus. 61-64).

(04420) Cut Stone. See Rough Stone (04410).

(04440) Flagstone. Wright's instructions for flagstone surfaces were as follows: "All flagstone floors and terraces shall be laid with approved hard local stone 1" to 2" thick, in the predominance of large flat surfaces. Stone shall be laid on sand subfill and brought to given level. Joints should be grouted with one part Portland cement to two parts clean sharp sand."⁸⁵

(04450) Stone Veneer. Not applicable.

(04455) Marble. Not applicable.

(04460) Limestone. Not applicable.

(04465) Granite. For a description of granite used in masonry construction in the Reisley house, see Rough Stone (04410)

Granite is a suitable building material for the northeast region of the United States because it is non-porous and resistant to water, making it durable when exposed to severe changes in weather.

(04470) Sandstone. Not applicable.

(04475) Slate. Not applicable.

See Landscaping (02900) for distinctive stone features.

Masonry Restoration and Cleaning

04500

This report recommends the following guidelines for care of masonry:

1) Replace cracked granite with granite from a local source which is similar in color and texture to original stone.

2) Use an arbicide to remove lichens on exterior masonry.

3) Inspect all masonry for efflorescence. Efflorescence is a white powdery substance which accumulates on a brick, stone, or concrete surface when water-soluble salts inherent in the masonry are deposited on the surface as salt crystals during evaporation. Persistent

⁸⁵ Frank Lloyd Wright, Instructions for Concrete and Masonry, Sheet No. 2, Final Plans for the Roland and Ronny Reisley House, 1951.

efflorescence usually indicates water penetration into masonry structure.

According to Edward Allen, "Most forms of efflorescence that form soon after the completion of construction are easily removed with water and a brush...Efflorescence that forms for the first time after a period of years is an indication that water has recently begun to enter the wall, and can only be controlled by investigating and correcting the source of leakage."⁸⁶

While efflorescence is not a serious problem at the Reisley house, it is severe at the Serlin house.

Refractories

04550

(04555) Flue Liners. Heat-resistant clay used in brick chimneys. None currently in place (confirmation needed).

(04565) Firebrick. Heat-resistant bricks used to line a fireplace cavity. Not applicable.

Corrosion Resistant Masonry

04600

Not applicable.

Simulated Masonry

04700

Not applicable.

Division 5—Metals

Metal Materials

05010

See Flashing and Sheet Metal (07600).

⁸⁶ Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 337.

Metal Coatings

05030

Usually pertains to electroplating metal with chromium to create a reflective surface. Metal fittings for hardware are sometimes "chromed."

Wright chose brass fittings for the hardware in the Reisley house. See Hardware (08700). Metal coatings on hardware is therefore not applicable.

Metal coatings are also applied in the form of cadmium finishes on steel components for preventing corrosion. Sheet metal in the roof may be treated with cadmium, although this is not presently known.

Metal Fastening

05050

For opening and closing devices (e.g. hinges, bolts, fasteners, locks, pulls, catches, knobs, etc.) see Hardware (08700).

Structural Metal Framing

05100

For description of reinforced decking in west balcony see Wood and Metal Systems (06150).

Metal Joists

05200

Usually pertains to steel framing in multi-story buildings. Not applicable.

Metal Decking

05300

See Wood and Metal Systems (06150).

Cold Formed Metal Framing

05400

Framing components rolled or bent at temperatures which cause material, usually steel, to lose its plasticity. Not applicable.

Metal Fabrications

05500

Steel joining members, e.g. rivets and bolts. Not applicable.

Sheet Metal Fabrications

05580

See Flashing and Sheet Metal (07600).

Ornamental Metal

05700

As originally conceived by Wright, fascia was to consist of a dentilated copper strip. As executed, an ornamental fascia consisting of a cypress strip with applied cypress dentils replaced the copper decoration for reasons of cost reduction desired by the Reisleys. See Architectural Woodwork (06400).

Expansion Control

05800

Metal components of a sheet metal roof which permit movement caused by temperature changes. May be applicable.

Hydraulic Structures

05900

Not applicable.

Division 6—Wood and Plastics

Fasteners and Adhesives

06050

For wood, these are nails, wood screws, lag screws, bolts, timber connectors, toothed plates, staples, etc. Adhesives are usually sealants used to attach wood panels to a wood frame.

As specified by Wright, "All holes for bolts shall be drilled...all exposed screws shall be heavily cadmium-plated or made of aluminum. All exposed nails shall be neatly counter-sunk."⁸⁷

Rough Carpentry

06100

(06110) Wood Framing. Internal roof structure contains 2' X 6' joists. Original decking in balcony at west end contains 2' X 12' joists and interlocking 2' X 6' joists (Illus. 55).

See Wood and Metal Systems (06150) for description of restored decking.

As specified by Wright, framing lumber throughout is "No. 1 Dimension Lumber (L.L. yellow pine or equal) subject to approval."⁸⁸

(06115) Sheathing. Board and batten siding. See Finish Carpentry (06200).

(06120) Structural Panels. Ceilings contain 3/8" plywood panels (See Illus. 55).

Heavy Timber Construction

06130

Usually fire-resistant beams produced in a mill. Not applicable (confirmation needed).

⁸⁷ Frank Lloyd Wright, Instructions for Carpentry and Millwork, Sheet No. 6 of Final Plans for the Roland and Ronny Reisley House, 1951.

⁸⁸ Wright, Instructions for Carpentry and Millwork.

Wood and Metal Systems

06150

Decking of west balcony became structurally weak from water penetration and rotting joists. Original wood joists were recently replaced with new pressurized wood joists inserted with steel plates for additional strength. Roland Reisley does not remember the exact date of the project.

Roland Reisley installed electric wires in west balcony soffit to melt snow and ice which collects on deck above and seeps through balcony structure.

Prefabricated Structural Wood

06170

Roof and floor trusses used in wood-frame construction. Not applicable.

Finish Carpentry

06200

Includes wood components visible on the interior of a building.

Board and batten walls throughout are constructed with 2" X 12" boards and 1" X 3" battens. (See Illus. 55).⁸⁹ (For general views of exterior showing board and batten construction, see also Illus. 61-64).

According to William Allin Storrer, boards are held in place with nails. "The boards are not screwed, but nailed," he writes in *The Frank Lloyd Wright Companion*, "the holes filled with putty by Mrs. Reisley."⁹⁰
(06220) Millwork.

As specified by Wright, "All interior doors shall be 1-3/8" Rodiscraft slab door or equal."⁹¹ As installed, doors throughout are Rodiscraft hollow-core type, finished with long cut or rotary-cut cypress boards. See Wood and Plastic Doors (08200) and Special Doors (08300).

Exposed wood on built-in furniture includes the following:

⁸⁹ Frank Lloyd Wright, *Instructions for Carpentry and Millwork*, Sheet No. 6 of Final Plans for the Roland and Ronny Reisley House, 1951.

⁹⁰ William Allin Storrer, *The Frank Lloyd Wright Companion* (Chicago: University of Chicago Press, 1993), p. 333.

⁹¹ Wright, *Instructions for Carpentry and Millwork*.

1) Wardrobe doors throughout (See Illus. 55).

As specified by Wright, "Wardrobe doors of 3/4 inch plywood. All exposed wood throughout including wall siding, fascias, casings, trim, etc." cut from "no. 1 grade redwood (or approved substitute). All cabinet doors shall be 5/8 inch thick approved plywood. Panels and edges shall be sealed against moisture absorption."⁹² As built, all plywood on cabinet and closet doors is rotary-cut cypress.

2) Built-in seats and open shelves, Living Room and Study (See Illus. 55).

3) Buffet with cabinet doors, Dining Area (See Illus. 55).

4) Cupboards, Workspace (See Illus. 55).

5) Bed and open shelves, Master Bedroom (See Illus. 55).

(06240) Laminates. Composite wood pieces used for veneer. Not applicable.

(06260) Board Paneling. See Paneling (06420).

06300 Wood Treatment

Interior:

Wright's specifications for treating interior wood include the following: "A) Fill all nail holes and small cracks and joints in woodwork with pure bees wax.... C) All exterior wood shall be treated with one coat 'Durable Woods Exterior Finish' as manufactured by Breinig Brothers, Inc., Hoboken, New Jersey (or equal). Apply according to directions of manufacturer. D) All interior wood surfaces shall be first treated with a coat of one part white shellac to one part denatured alcohol. Or if desired by owner, in place of shellac, one coat satinlac followed by one coat of Johnson's Paste Wax buffed to a dull gloss."⁹³

Roland Reisley recently employed the office of Tom Gentle, a furniture restoration specialist, to refinish a free-standing bureau in the master bedroom. Reisley does not remember the exact date of the project.

⁹² Frank Lloyd Wright, Instructions for Carpentry and Millwork, Sheet No. 6 of Final Plans for the Roland and Ronny Reisley House, 1951.

⁹³ Frank Lloyd Wright, Specifications for Painting and Finishing, Sheet No. 4 of Final Plans for the Roland and Ronny Reisley House, 1951. B and E were excluded here because they do not pertain to Wood Treatment.

Where affordable, this report recommends professional refinishing of all built-in and freestanding furniture above "home treatments." Commercial wax-based products (e.g. Pledge, Minwax, Murphy's Oil) can leave harmful residues on wood surfaces.

Exterior:

Roland Reisley is currently applying Sikkens Cetol Marine Finish, manufactured by Akzo Coatings, Inc. Decorative Finishes, to areas of exterior wood on a test basis. One such area is the west balcony outside the Master Bedroom. Apparently, areas treated with one coat of the finish more or less resemble their original appearances, evidence that the finish in small quantities does not interfere with the natural look of the wood. According to Reisley, sections which have received one coat only of the Sikkens appear the typical red-brown color of the wood, and exhibit a dull, opaque luster unlike the high-gloss sheen of teak in marine vessels treated with more than one coat of the finish. This report therefore recommends occasional application of one coat of Sikkens Cetol Marine Finish to exterior wood.

Instructions for Applying Sikkens Cetol Marine Finish:⁹⁴

A. Optimal conditions for applying finish:

- 1) Ideal surface temperature range for application is between 10° C/50° F and 35° C/95° F.
- 2) Apply finish directly to wood surface using a long-haired natural China bristle brush.
- 3) Apply liberal coats in the direction of the wood grain.
- 4) Maintain a wet brush edge during application.

B. Sub-optimal conditions for applying finish:⁹⁵

- 1) Do not apply finish in direct sunlight.
- 2) Do not apply finish when surface is hot to touch.
- 3) Do not apply finish when dew is present on surface.
- 4) Do not apply finish in wet-weather conditions.

⁹⁴ The following directions were adapted from instructions for the care of teak decks of sailing vessels which appeared in *Practical Sailor* (Year and month of magazine issue unknown). Complete published instructions are available from Boatek Inc., P.O. Box B, Havre de Grace, MD 21078. 1-800-336-9320.

⁹⁵ See "Application Don'ts" in *Practical Sailor*.

5) Do not apply finish when wood moisture is greater than 18 degrees. (If precise wood moisture level cannot be determined, apply finish only in dry weather conditions when surface is dry to touch).

C. Instructions for Finishing Wood:

- 1) Measure total square feet of treatment area.
- 2) Obtain sufficient quantity of Sikkens Cetol Marine Finish based on manufacturer's recommendations, allowing for loss of finish from evaporation, spillage, etc. (One quart covers approximately 85 square feet).
- 3) Determine that the product being applied is Sikkens Cetol Marine Finish, not Sikkens Cetol Marine *Gloss*.
- 4) First apply a mild detergent solution to surface using a Scotch Brite type pad. Scrub vigorously. Solution should not contain bleach.
- 5) Rinse thoroughly with clean water to remove solution along with surface dirt.
- 6) Allow surface to dry thoroughly.
- 7) Sand area to a dull finish using 80-120 grit sandpaper until a uniform smoothness is achieved. Treat all areas gently and evenly. Take precaution not to abrade surface with sandpaper.
- 8) Remove surface dust with a dry cloth or vacuum.
- 9) Apply one coat of finish no later than one week after completing steps 1-8, to ensure that finish is applied to a clean surface. Refer to manufacturer's directions for application tips, etc. (*Do Not* apply more than one coat where manufacturer indicates application of several coats for sailing vessels).

D. Instructions for treating wood with blue fungi or mildew:

- 1) Clean affected areas thoroughly, following steps 3-5 in section C of these instructions.
- 2) Mix 4 ounces of oxalic acid crystals in one gallon of warm water. Wash affected areas, applying mixture to surface with a soft cloth or sponge.
- 3) Allow surface to stand for 15-20 minutes.
- 4) Rinse thoroughly with clean, lukewarm water.
- 5) Allow surface to dry for 72 hours.

6) Apply finish according to 9 in section C of these instructions.

Architectural Woodwork

06400

- (06410) Custom Casework. Custom-designed cypress window casements throughout.
- (06420) Paneling. The walls of the bedroom extension, 1956, are finished in birch plywood panels.
- (06430) Stairwork and Handrails. Not applicable.
- (06440) Wood Ornaments. The only example of applied wood ornament in the Reisley house is the cypress fascia. See Ornamental Metal 05700). (For general exterior views showing wood fascia, see Illus. 61-64)
- All other ornament in wood is integral, such as the triangular light recesses in the board and batten ceilings (See Illus. 30), and the board and batten walls and ceilings themselves.
- (06450) Standing and Running Trim. Door casings and window casings. See Custom Casework (06410).

Solid Polymer Fabrications

06650

Not applicable.

Structural Plastics

06500

Includes plumbing fixtures, coatings, adhesives, glazes, foam insulation, etc. Structural plastics were not studied for this report.

Plastic Fabrications

06600

Synthetic materials containing plastics, e.g. roof membranes, waterproofing devices, etc. sealants. Plastic fabrications were not studied for this report.

Division 7—Thermal and Moisture Protection

Waterproofing

07100

No special waterproofing devices are currently in place (confirmation needed). See Sewerage and Drainage (02700). According to Edward Allen, "The substructure of a building is subject to penetration of ground water, especially if it lies below the water table....Drainage is more secure than membranes in keeping a basement dry and has the advantage of preventing the buildup of potentially destructive water pressure against basement walls and slabs.⁹⁶

Dampproofing

07150

Usually an asphalt coating applied to a basement wall as a water barrier. Not applicable.

Water Repellents

07180

None currently in place (confirmation needed).

Vapor Retarders

07190

Metal, plastic, or paper membranes installed to prevents moisture penetration into insulation. Galvanized metal roofing was inserted above roof plaster and underneath roof sheathing (See Illus. 55).⁹⁷ See Flashing and Sheet Metal (07600).

Air Barriers

07195

Air barrier papers inserted underneath siding to prevent air leakage. None currently in place (confirmation needed).

⁹⁶ Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 50 and 52.

⁹⁷ Galvanized metal consists of zinc with a steel coating to prevent corrosion.

Insulation

07200

Wright's specifications for roof insulation were as follows: "Roof insulation of 2" Johns Mansville mineral-wool batt-type, set into place according to manufacturer's specifications." Blocking, or individual wood pieces inserted at junctures to improve insulation, were installed in roof-ceiling cavity as specified in plans: "Blocking shall be so installed as to thoroughly insulate portion of roof space over interior building from that over exterior ceilings and soffits."⁹⁸

Exterior Insulation and Finish Systems

07240

Exterior insulation and finish systems are usually assembled on concrete walls behind metal grids employed to support a finish such as stucco. Not applicable.

Fireproofing

07250

Material surrounding a steel component which prevents heat conduction and spread of fire. None currently in place (confirmation needed).

Firestopping

07270

Use of wood or masonry components inserted into openings in a wood frame to prevent spread of fire across the opening. None currently in place (confirmation needed).

As specified by Wright, "All ceilings shall be 9/10" fire resistance and vermin resistance cemesto insulation or equal."⁹⁹

Shingles and Roofing Tiles

07300

Not applicable.

⁹⁸ Frank Lloyd Wright, Instructions for Carpentry and Millwork, Sheet No. 6 of Final Plans for the Roland and Ronny Reisley House, 1951.

⁹⁹ Wright, Instructions for Carpentry and Millwork.

Manufactured Roofing and Siding

07400

John Mansville red roofing was installed on the roof of the living room wing, 1951. Roofing was replaced in these years: 1976, 1985, and 1991.¹⁰⁰

Exterior Wall Assemblies

07480

Not applicable.

Membrane Roofing

07500

(07510) Built-up Bituminous Roofing. A built-up roof membrane (BUR) was installed on the roof of the bedroom extension. The material is a cellulose-fiber felt saturated with asphalt. Membrane is covered with a 1-inch thick layer of gravel.¹⁰¹

(07520) See Manufactured Roofing and Siding (07400).

Traffic Coatings

07570

A walking surface installed for traction on a roof deck. Not applicable.

Flashing and Sheet Metal

07600

(07610) Sheet Metal Roofing.

As specified by Wright, galvanized sheet metal was installed on the roof of the 1951 wing according to these instructions:
"Contractor shall cover all portions of roof with no. 24 GA

¹⁰⁰ Interview with Roland Reisley, Spring 1996.

¹⁰¹ Two types of felt commonly found in built-up roofing systems are felt containing cellulose fibers and felt containing glass fibers.

galvanized metal. Vertical seams to overlap—Not left in line. Horizontal seams lapped over and under 2 X 6 split batten, as shown. Proper allowance must be made for contraction and expansion. All flashing to be of same material."¹⁰²

Roof slopes at locations of sheet metal are as follows, as indicated by Wright in plans:

West Elevation: Slope = 3 1/2: 12.

North Elevation: Slope = 2 3/4: 12.

East Elevation: Slope = 3 1/2: 12.¹⁰³

- (07620) Sheet Metal Flashing and Trim. Copper flashing was installed at junctures of roof and masonry walls. Wright probably intended the flashing to turn its present green color from oxidation. Chemical treatments can preserve color of unoxidized copper.¹⁰⁴ This report recommends leaving existing copper flashing in place at present. Professional consultation may be sought in the future if removal and replacement is desired.

Roof Specialties and Accessories

07700

A ridge vent was installed on the roof of the bedroom extension to improve ventilation.

Skylights

07800

Not applicable.

Joint Sealers

07900

¹⁰² Frank Lloyd Wright, Instructions for Roofing, Sheet No. 5 of Final Plans for the Roland and Ronny Reisley House, 1951.

¹⁰³ Frank Lloyd Wright, Elevations, Sheet No. 3, Final Plans for the Roland and Ronny Reisley House, 1951.

¹⁰⁴ Edward Allen, *Fundamentals of Building Construction* (New York: John Wiley & Sons, Inc., 1990), p. 594.

A silicon-acrylic compound was applied at window sills in junctures between masonry and plate glass.

Division 8—Doors and Windows

Metal Doors and Frames

08100

Not applicable.

Wood and Plastic Doors

08200

As indicated by Wright, doors throughout are 1-3/8" Rodiscraft slab type. As built, all doors are Rodiscraft hollow-core type finished with long-cut cypress boards or rotary-cut cypress boards. See Millwork (06220), Special Doors (08300), and Entrances and Storefronts (08400).

Door schedule as indicated in plans:¹⁰⁵

Type	Quantity	Dimensions
A	1	6'-6" X 2'-8"
B	1	6'-6" X 2'-6"
C	5	6'-6" X 2'-0"
D	1	6'-6" X 2'-0" (Outdoor Plywood)

Doors Opening Assemblies

08250

Doorknobs, hinges, and latching devices. See Hardware (08700).

Special Doors

08300

All doors are hollow-core type, manufactured by Rodiscraft. Two types of surfaces were used in construction of doors: 1) Long-cut cypress boards. 2) Rotary-cut cypress boards, also applied to surfaces of cabinets and closets throughout. See Millwork (06220), Wood and Plastic Doors (08200), and Entrances and Storefronts (08400).

¹⁰⁵ Frank Lloyd Wright, Instructions for Carpentry and Millwork, Sheet No. 6, Final Plans for the Roland and Ronny Reisley House, 1951.

Entrances and Storefronts

08400

The front door is a hollow-core type manufactured by Rodiscraft. There is also a Rodiscraft door at the termination of the bedroom extension on the south facade. See Wood and Plastic Doors (08200) and Special Doors (08300).

Metal Windows

08500

Not applicable.

Wood and Plastic Windows

08600

All window frames are cypress. See Special Windows (08650).

Special Windows

08650

All windows original to the house were custom-cut from 1/4 inch polished plate glass. See Glazing (08800).

Window types include the following:

- 1) Orthogonal windows below ceiling level, top-hinged for easy opening (See Illus. 39).
- 2) French doors (Illus. 39).
- 3) Hexagonal window in east wall of workspace, top-hinged.
- 4) Four square windows in west wall of basement, top-hinged.
- 5) Plate glass rabbeted into masonry (some examples have mitered corners).
- 6) Thermal glass. In c. 1982 Roland Reisley replaced all original plate glass in the west facade wall with thermal glass (original mitered plate glass corners were left in place). Reisley noticed condensation in the study and master bedroom over a decade ago, but reports decreased incidence of condensation in these locations since the thermal glass was installed. The double thickness of the thermal glass and what Reisley describes as a slightly purplish tone makes it distinct in appearance from

the original plate glass. Thermal glass has an average life of approximately 10 years before fogging becomes visible.

Hardware

08700

Wright's instructions for hardware include the following: "Provide all finish hardware necessary for the proper operation of all doors, windows, cabinets, etc., including all hinges, bolts, fasteners, locks, pulls, catches, knobs, etc. This contractor shall submit to the architect a complete list of the proposed hardware, including name of manufacturer, samples or cuts of major features, etc. Such list shall receive approval of the architect before it is purchased. All hinges throughout the job shall be piano type or continuous hinges of brass or stainless steel. All interior doors shall have latches (no locks) and knobs. Entry door shall have knob with latch and cylinder locks with mortise strike and dead bolt. Bathrooms or lavatory doors shall have interior bolts. Windows shall have latches (two on each window) and pulls with hinges. Large glazed doors shall have two latches and shall have suitable friction bolts to hold doors in place when open. Cabinet and cupboard doors shall have button pulls and friction catches (or bullet catches)."¹⁰⁶

Manufacturing status of original hardware is as follows:

- 1) Piano-type hinges. Currently in production.
- 2) Cabinet and cupboard pulls (See Illus. 31). Manufacturing status unknown.
- 3) Casement window operators. Currently not in production.
- 4) Brass switch plates. Currently not in production. Roland Reisley obtained replacements from a business called *Renovators* in Conway, New Hampshire.
- 5) Handles on French doors. Manufacturing status unknown (See Illus. 19).

This report recommends that future owners acquire reserve supplies of hardware which is currently in place in the house and available on the market, or available through special sources in limited quantities only, whichever the case may be. All existing hardware should be documented, and surplus supplies kept in storage in the house for later installments. Components may be unobtainable in the future depending on market availability.

¹⁰⁶ Frank Lloyd Wright, Instructions for Hardware, Sheet No. 4, Final Plans for the Roland and Ronny Reisley House, 1951.

Glazing

08800

Wright's instructions for glass and glazing were the following: "Provide and set glass in all openings where indicated on drawings including all glazed doors, windows, etc., unless otherwise noted. All glass shall be set in A.C. Horn glazing compound (A.C. Horn Co. Inc., L.I. City, New York) or approved [illeg.]. All sash shall have 1/4 inch thick polished plate glass of approved manufacturer."¹⁰⁷

For a description of thermal glass see Special Windows (08650).

Glazed Curtain Walls

08800

Not applicable.

Division 9—Finishes

Metal Support Systems

09100

(09120) Ceiling Suspension Systems. Not applicable.

(09130) Acoustical Suspension Systems. See Acoustical Treatment (09500).

Lath and Plaster

09200

Lath and plaster was applied to the living room ceiling. Sheetrock was used in ceilings throughout the bedroom extension. Wright's instructions for ceilings were as follows: "All ceilings of plaster or sheetrock and one coat of paint and mix....If sheetrock board is used on soffits and ceilings, these surfaces will be painted with 2 coats Stronex or similar sand oil paint mixture. Color to be approved by the architect."¹⁰⁸

¹⁰⁷ Frank Lloyd Wright, Instructions for Glass and Glazing, Sheet No. 4, Final Plans for the Roland and Ronny Reisley House, 1951.

¹⁰⁸ Frank Lloyd Wright, Instructions for Painting and Finishing, Sheet No. 4, Final Plans for the Roland and Ronny Reisley House, 1951.

Gypsum Board

09250

See Lath and Plaster (09200).

Tile

09300

The counter surface in the master bath is finished with white hexagonal tiles approximately 2 inches in diameter. This report recommends stockpiling tiles if they can be purchased, as identical or similar tiles may not be available in the future. The maker of these is unknown, but manufacturing information may be impressed on back of tiles (See Illus. 53).

Terrazzo

09400

Terrazzo is a durable material used for flooring which consists of polished concrete and marble chips. The Reisleys chose red terrazzo in the dining area and bedroom extension as an alternative to the concrete floor surfaces in the remainder of the house (See Illus. 33). Brass divider strips separate the units. Like the scored concrete surface of the living room wing, the dividers correspond with the lines of the triangle unit module.

Stone Facing

09450

Not applicable.

Acoustical Treatment

09500

(09510) Acoustical Ceilings. According to William A. Storrer, Wright modified the design of the living room from its first design, making it slightly asymmetrical to allow for the introduction of an extended ceiling which accommodates a speaker system built into one corner of the roof.¹⁰⁹ Roland Reisley reports that the system is still operational.

¹⁰⁹ Storrer, *The Frank Lloyd Wright Companion*, p. 333.

Special Wall Surfaces

09540

Not applicable.

Special Ceiling Surfaces

09545

See Lath and Plaster (09200).

Wood Flooring

09550

Not applicable.

Stone Flooring

09600

Not applicable.

Unit Masonry Flooring

09630

Concrete mat foundation is monolithic. Not applicable.

Resilient Flooring

09650

Manufactured flooring, e.g. linoleum, vinyl, or rubber.

Linoleum is a resilient material made with cork and linseed oil on canvas backing which became increasingly popular during the 1950s as a finish for household floors and surfaces. Linoleum was used on all counter surfaces in the workspace of the Reisley house.

Wright's instructions for linoleum were as follows: "Provide and apply linoleum on workspace counters. All linoleum shall be plain 1/8 " gauge no. 1027 linoleum as manufactured by Nairn (or equal). It shall be applied strictly according to the manufacturer's specifications. In case of counter tops provide and install improved linoleum cover strips at all

junctions between vertical and horizontal surfaces and approved metal sink strips around opening of sink and along the edge of the counter tops."¹¹⁰

Carpet

09680

Wall-to-wall carpeting of cut pile, chosen for its similarity to the gold carpeting at Taliesin East, was installed in the hall, study, and master bedroom in the 1951 wing. The original carpeting was replaced in c. 1989 with a different brand. The Reisleys tried their best to replicate the original, but despite the costliness of the new carpet, Roland Reisley admits disappointment at not finding a better match for the color of the original. Reisley also reports difficulties in cleaning the new rug.

This report recommends that future owners replace carpet when damage from traffic wear, staining, or excessive fading is visible. Do not replace isolated sections of carpet; carpeting should appear uniform.

Special Flooring

09700

For an explanation of underfloor heating system see Heating, Ventilating, and Air Conditioning (15500).

Floor Treatment

09780

See Concrete Restoration and Cleaning (03700).

Special Coatings

09800

Wright's instructions for carpentry and millwork indicate that welded connections throughout are painted with one coat of approved lead and oil paint.¹¹¹

¹¹⁰ Frank Lloyd Wright, Specifications for Linoleum, Sheet No. 4 of Final Plans for the Roland and Ronny Reisley House, 1951.

¹¹¹ Frank Lloyd Wright, Instructions for Carpentry and Millwork, Sheet No. 6, Final Plans for the Roland and Ronny Reisley House, 1951.

Wright's instructions for care of linoleum were as follows: "To all counter tops apply 'Plasticoat' (or equal) as directed by manufacturer, after which wax as other wood surfaces."¹¹²

See also Concrete Restoration and Cleaning (03700) and Wood Treatment (06300).

Painting

09900

(09910) Exterior Painting. Not applicable.

(09920) Interior Painting. The sheetrock board used on soffits and ceilings in the bedroom extension was finished with an oil paint mixture. See Special Ceiling Surfaces (09545).

(09930) Transparent Finishes. Wright's instructions were:

1) Use Durable Woods exterior finish, Breinig Brothers, on all exterior wood.

2) Use shellac and denatured alcohol, or satinlac, on all interior wood.

See Wood Treatment, Interior and Exterior (06300).

Wall Coverings

09950

Wall decoration is integral with structure. Not applicable.

Division 10—Specialties

Visual Display Boards

10100

Not applicable.

¹¹² Frank Lloyd Wright, Instructions for Linoleum, Sheet No. 4, Final Plans for the Roland and Ronny Reisley House, 1951.

Compartments and Cubicles

10150

Built-in plywood cabinets with piano type hinges throughout. See Millwork (06220) and Hardware (08700).

Built-in closet in carport (See Illus. 35).

Louvers and Vents

10200

See Roof Specialties and Accessories (07700).

Grilles and Screens

10240

The screens on the French doors throughout the house were designed by David Henken, the founding architect of Usonia. Henken, a designer of lighting fixtures also, takes credit for the fluorescent lights in the master bath. See Lighting (16500).¹¹³

Service Wall Systems

10250

Not applicable.

Wall and Corner Guards

10260

Strips of metal or plastic applied to wall corners. None currently in place.

Access Flooring

10270

A raised floor with removable panels concealing wiring, ductwork, etc. Not applicable.

¹¹³ Interview with Roland Reisley, Spring 1996.

Pest Control

10290

As specified by Wright in plans, all ceilings are fitted with 9/10" fire resistance and vermin resistance cemesto insulation, or equivalent.¹¹⁴

Fireplaces and Stoves

10300

All hearths are constructed of rough granite. Flagstone laid over 4-inch-thick concrete bed. See Cast-in-Place Concrete (03300).

1) Living room (See Illus. 55). Dimensions of opening: 24" X 16". Shares masonry mass with fireplace in study. Roland Reisley says he considered purchasing a flue cap for this fireplace, but decided otherwise for aesthetic reasons.

2) Study (See Illus. 55). Dimensions of opening: 24" X 12". Shares masonry mass with fireplace in living room.

3) Master bedroom (See Illus. 55). Dimensions of opening: 48" X 16". Wright indicated the following in plans: "Note reinforcement of hearth construction in bedroom."¹¹⁵

Original plans included a charcoal grille in the east wall of the workspace. The grille was not executed, but a flue was constructed in the east wall. The cavity is located immediately to the right of the kitchen entrance.¹¹⁶

Manufactured Exterior Specialties

10340

Dryer vents, exhaust systems, etc. Not applicable (confirmation needed).

Flagpoles

10350

None are currently in place on the property. This report recommends that a flagpole not be introduced to the site, as one would interfere with

¹¹⁴ Frank Lloyd Wright, Instructions for Carpentry and Millwork, Sheet No. 6, Final Plans for the Roland and Ronny Reisley House, 1951.

¹¹⁵ Frank Lloyd Wright, Instructions for Concrete and Masonry, Sheet No. 2, Final Plans for the Roland and Ronny Reisley House.

¹¹⁶ Interview with Roland Reisley, Spring 1997.

views of the exterior of the building as Wright intended it to be perceived.

Identifying Devices

10400

Magnetic strip cards and other identification/security devices. Not applicable.

Pedestrian Control Devices

10450

Stanchions, portable gates for infants, etc. None currently in place.

Lockers

10500

Not applicable.

Fire Protection Specialties

10520

For a description of current fire detection system see Fire Protection (15300).

Protective Covers

10530

A tarpaulin cover was recently installed on the roof of the Serlin House to protect structural members from further water penetration and damage.

This report recommends use of tarpaulin on the roof of the Reisley house in the future, should a temporary water barrier become necessary. Tarpaulin should be applied as a *temporary* measure only. Severe damage from precipitation will require removal of plastic and structural repair.

Postal Specialties

10550

None currently in place.

Partitions

10600

Partition walls throughout are constructed of board and batten with plywood core.¹¹⁷

The fourth bedroom at the termination of the extension was subdivided with a partition wall. Originally intended as a playroom, the space was redesigned as a servant's room and walk-in storage closet.

This report recommends that future owners *not* construct new partition walls inside the house. Wright created interior plans according to studied patterns of movement in central and auxiliary spaces. Subdividing existing spaces would detract from the authenticity of their designs, both aesthetically and functionally.

Operable Partitions

10650

Not applicable.

Storage Shelving

10670

Storage closet and wine cellar in basement (See Illus. 35).

Exterior Protection Devices for Openings

10700

Not applicable.

Telephone Specialties

10750

Wiring system and accessories standard throughout.

¹¹⁷ Frank Lloyd Wright, General Instructions, Sheet No. 1 of Final Plans for the Roland and Ronny Reisley House, 1951.

Toilet and Bath Accessories

10800

Standard plumbing throughout. See Plumbing (15400).

Scales

10880

Digital bathroom scale in master bath (confirmation needed).

Wardrobe and Closet Specialties

10900

There is a built-in shoe rack in the front hall closet (See Illus. 55).

Division 11-Equipment

Maintenance Equipment

11010

See Residential Equipment (11450).

Security and Vault Equipment

11020

The Reisleys may or may not have a vault. For reasons of privacy, security equipment was not studied for this report.

Teller and Service Equipment

11030

Not applicable.

Ecclesiastical Equipment

11040

Not applicable.

Library Equipment

11050

Not applicable.

Theater and Stage Equipment

11060

For theatrical and stage performances only. Not applicable.

Instrumental Equipment

11070

For musical performances only. Not applicable.

Registration Equipment

11080

Not applicable.

Mercantile Equipment

11100

Not applicable.

Checkroom Equipment

11090

Not applicable.

Commercial Laundry and Dry Cleaning Equipment

11110

A laundry/sewing area is located in the basement (See Illus. 35).

Vending Equipment

11120

Not applicable.

Audio-Visual Equipment

11130

Wright cut a niche into the masonry of the south wall of the study to hold a 27-inch television set. A television set of such large dimensions was not yet available on the market in 1951. Roland Reisley's work in the electrical and engineering trade afforded him insider's knowledge that the Raytheon Company would be introducing a 27-inch model in the near future (Illus. 43).

Vehicle Service Equipment

11140

Not applicable.

Parking Control Equipment

11150

None currently in storage on the site (confirmation needed).

Loading Dock Equipment

11160

Not applicable.

Solid Waste Handling Equipment

11170

Not applicable.

Detention Equipment

11190

Not applicable.

Water Supply and Treatment Equipment

11200

The Reisleys obtain treated water from the public supply of the town of Mount Pleasant. See Water Distribution (02660).

Hydraulic Gates and Valves

11280

Not applicable.

Fluid Waste Treatment and Disposal Equipment

11300

Not applicable.

Food Service Equipment

11400

Not applicable.

Residential Equipment

11450

Gas-operated barbecue grill on the north terrace.

Three sunken garbage pails next to the drive at the west facade, at the approach to the carport on the right. Green plastic lids are labeled "Somerville."

This report recommends that a minimum of the following equipment be kept in storage on the site at all times:

- Manually operated fire extinguisher
- High-power vacuum
- Heavy-duty flashlight
- Toilet plunger
- Step ladder
- Snow shovel

Garden shovel
Garden rake
Garden hose
Heavy-duty broom
Hedge clippers ,
Fireplace equipment (shovel and tongs)
Home owner's auto equipment (jack, air pump, cable jumpers, etc.)

Unit Kitchens

11460

Custom-designed cabinetry throughout. Not applicable.

A cooking range manufactured by General Electric was installed in c. 1970. The original cooking range was manufactured by Crossley. A refrigerator by Sears Company is an original appliance.¹¹⁸

Darkroom Equipment

11470

A darkroom is located in the basement to the south of the stairs (See Illus. 35). The darkroom was not studied for this report.

Athletic, Recreational, and Therapeutic Equipment

11480

None currently in place (confirmation needed).

This report recommends that future owners store any large equipment (e.g. treadmills, rowing machines, step machines, or stationary bicycles) in the basement. Large equipment in the living room, study, or bedrooms would disrupt the designs of these spaces as Wright intended them to be perceived.

Industrial and Process Equipment

11500

Not applicable.

¹¹⁸ Interview with Roland Reisley, Spring 1997.

Laboratory Equipment

11600

Not applicable.

Planetarium Equipment

11650

Not applicable.

Observatory Equipment

11660

Not applicable.

Office Equipment

11680

Roland Reisley currently uses one bedroom in the extension as a home-office. Office equipment was not observed for this report.

Medical Equipment

11700

Not applicable.

Mortuary Equipment

11780

Not applicable.

Navigation Equipment

11850

Not applicable.

Agricultural Equipment

11870

Not applicable.

Division 12—Furnishings

Fabrics

12050

Fabrics currently in place are all original. Roland Reisley says he and Mrs. Reisley chose the fabrics independent of Wright.

Artwork

12100

See Chapter 2 of this report.

Manufactured Casework

12300

See Custom Casework (06410).

Window Treatment

12500

Curtains throughout are a semi-sheer weave of small, square-shaped stitches. The material is off-white in color and coarse in texture, resembling netting (See Illus. 45). Curtains are floor-length to bottom of French doors, and hang to the sill on casements. The Reisleys chose the material.

Furniture and Accessories

12600

Wright-designed a dining table for the alcove in the north wall of the living room. After 1956 the table was moved to the new dining space in the extension (See Illus. 36).

Wright designed low-backed hexagonal dining chairs to accompany the table, but these were not executed. Fearing high costs, the Reisleys chose instead six chairs manufactured in Denmark (See Illus. 33).

A two-part hexagonal table in the living room (Illus. 19) was made by designer Paul Bechtold, who is responsible for the Guggenheim Pavilion House.¹¹⁹ According to Reisley, Bechtold also fabricated the teak tops on furniture throughout the living room and dining area. The veneer consists of a 1/2- inch sheet of teak bonded to a thicker sheet of redwood.¹²⁰

See Millwork (06220) for Wright-designed built-in furniture.

Outdoor furniture on north and south terraces is constructed of a sturdy metal mesh painted black.

Rugs and Mats

12670

A gold hexagonal rug with a blue border in the living room was custom-designed by Usonia resident and furniture and textile designer Mildred Resnik, c. 1962 (Illus. 21). Roland Reisley says that Ronny Reisley was influential in choosing the shape and pattern.¹²¹ According to Storrer, the rug's sides are unequal, made to fit Wright's modified plan for the space. See Acoustical Treatment (09500). Storrer cites Singapore as the rug's place of origin, indicating that while Resnik designed it, it may have been fabricated abroad.¹²²

Multiple Seating

12700

Built-in seats with open shelves in the living room and study are multiple seats. Wright modified the plan for the built-in seat in the living room, which was originally designed as a couch with one cushion. Preferring multiple seating, the Reisleys asked Wright to revise the design. The piece was constructed with 2 plywood partitions, creating a tripartite seat. (Illus.s 23 & 27).

¹¹⁹ Interview with Roland Reisley, Spring 1997. The extent of Paul Bechtold's involvement in the design the Pavilion House was not confirmed for this report.

¹²⁰ Interview with Roland Reisley, Spring 1997.

¹²¹ Interview with Roland Reisley, Spring 1997.

¹²² William Allin Storrer, *The Frank Lloyd Wright Companion* (Chicago: University of Chicago Press, 1993), p. 333.

A room divider with moveable built-in seat by Mildred Resnik separates the dining area from the living room. This is also a multiple seat (Illus. 25 & 26).

Interior Plants and Planters

12800

Most large plants throughout the house are kept in baskets or clay pots (No image available).

Division 13—Special Construction

Air Supported Structures

13010

Not applicable.

Integrated Assemblies

13020

Not applicable.

Special Purpose Rooms

13030

Darkroom in basement. See Darkroom Equipment (11470).

Sound, Vibration, and Seismic Control

13080

The Reisley house is not located in a seismic zone. Not applicable.

Radiation Protection

13090

Not applicable.

Nuclear Reactors

13100

Not applicable.

Pre-Engineered Structures

13120

Not applicable.

Aquatic Facilities

13150

None currently in place.

This report recommends that future owners not build aquatic facilities, e.g. an above-ground swimming pool, a below-ground swimming pool, a children's pool, or a Jacuzzi, on the property. Such features would interfere with views of the land as Wright intended it to be perceived, and detract from the authenticity of the landscape as a design by Arthur Edwin Bye. See Landscaping (02900).

Ice Rinks

13175

Not applicable.

Site Constructed Incinerators

13180

None currently in place.

Kennels and Animal Shelters

13185

Wright designed dog houses for some properties. A dog house was not designed for the Reisley house.

Liquid and Gas Storage Tanks

13200

Not identified for this report.

Digester Covers and Appurtenances

13230

Not identified for this report.

Oxygenation Systems

13240

Not identified for this report.

Sludge Conditioning Systems

13260

Not applicable.

Utility Control Systems

13300

Not identified for this report.

Industrial and Process Control Systems

13400

Not applicable.

Recording Instrumentation

13500

Not applicable.

Solar Energy Systems

13600

None currently in place (confirmation is needed that solar panels were not installed at any location throughout the house).

Wind Energy Systems

13700

None currently in place.

Cogeneration Systems

13750

Not identified for this report.

Building Automation Systems

13800

Not identified for this report.

Fire Suppression and Supervisory Systems

13900

None currently in place.

For fire detection system see Fire Protection (15300).

Special Security Construction

13950

None currently in place.

Division 14—Conveying Systems

Dumbwaiters

13950

Not applicable.

Elevators

13950

Not applicable.

Escalators and Moving Walks

14300

Not applicable.

Lifts

14400

Not applicable.

Material Handling Systems

14500

Not applicable.

Hoists and Cranes

14600

Not applicable.

Turntables

14700

Not applicable.

Scaffolding

14800

Not applicable.

Transportation Systems

14900

Not applicable.

Division 15—Mechanical

Basic Mechanical Materials and Methods

15050

Not identified for this report.

Mechanical Insulation

15250

Not identified for this report.

Fire Protection

15300

The fire detection system currently in place was manufactured by First Alert. The system was installed in 1994.

Plumbing

15400

Wright's instructions for plumbing indicate that the following was installed:

- 1) Hot and cold water supply.**
- 2) Sanitary drainage and sewerage disposal in conformance with local and state ordinances.**
- 3) Hot and cold water pipes of galvanized iron or cast iron fittings.**
- 4) Drainage pipes 6'-0" installed within or under the house. See Sewerage and Drainage (02700). (See Illus. 55)**
- 5) Cast-iron drainage or soil pipes outside. See Sewerage and Drainage (02700).**

6) For installation outside building to city sewage drain, a 4-inch approved vitrified tile.¹²³

All fixtures manufactured by American Standard. As indicated in plans:

1) Master Bath. Left-hand corner 'Master Pembroke' tub, Persian Brown.

2) 'Buena' Lavatory, 20" X 18", Persian Brown.

3) One-piece water closet, Persian Brown.¹²⁴

The kitchen sink, darkroom sink, dishwasher, laundry tubs, washer, and other appliances were chosen by the Reisleys with Wright's approval.¹²⁵

Heating, Ventilating, and Air Conditioning

15500

A radiant heat system was installed underneath the concrete mat foundation. The heating coils consist of 2-inch diameter 'raduct' or wrought-iron pipes with welded connections.

As instructed by Wright in plans, "Sub-floor piping may be readily and conveniently filled with suitable anti-freeze (ethylene glycole)...in case of prolonged shutdown."¹²⁶

Until recently (1996-1997), the radiant heating system was not operating in the extension. Roland Reisley suspects that corrosion in the pipes and leakage may account for the failure.

Reisley had success repairing the heat with a boiler liquid manufactured by Hercules Posaic of New Jersey, which contains a silicon-based stop-leak compound. Reisley pumped the liquid directly into the pipes at non-functional locations. To date, the treatment has corrected the failure.¹²⁷

A system of central air conditioning was installed in the crawl space in the early 1960s.¹²⁸

¹²³ Frank Lloyd Wright, Instructions for Plumbing, Sheet No. 7, Final Plans for the Roland and Ronny Reisley House, 1951.

¹²⁴ Wright, Instructions for Plumbing.

¹²⁵ Ibid.

¹²⁶ Frank Lloyd Wright, Specifications for Heating, Sheet No. 7, Final Plans for the Roland and Ronny Reisley House, 1951.

¹²⁷ Interview with Roland Reisley, Fall 1996.

¹²⁸ Interview with Roland Reisley, Spring 1996.

Heat Generation

15550

Utilities include the following:

- 1) Hot water storage tank of galvanized steel. Fifty-gallon capacity.¹²⁹**
- 2) Automatic oil-fired boiler. Net output capacity not less than 200,000 BTU/hour. Hot water heating coils and burner are built-in.¹³⁰**
- 3) Fuel oil storage tank of copper and steel. Eighteen inches below ground. One-thousand gallon capacity. (Tanks are no longer located underground in site plans, as this constitutes a fire hazard).**

Refrigeration

15650

The refrigerator in the workspace, a first-generation appliance, was manufactured by Sears Company.

Heat Transfer

15750

Not identified for this report.

Air Handling

15850

Not identified for this report.

Air Distribution

15950

Not identified for this report.

¹²⁹ **Frank Lloyd Wright, Specifications for Heating, Sheet No. 7, Final Plans for the Roland and Ronny Reisley House, 1951.**

¹³⁰ **Ibid.**

Testing, Adjusting, and Balancing

15990

Room Thermostat: Thrush 201.

Relay Transformer: Thrush 200.

Division 16—Electrical

Basic Electrical Materials and Methods

16050

Roland Reisley says the number of electrical outlets in the house is sufficient. He has not reported any inconveniences in their locations.

Power Generation—Built-Up Systems

16200

Not identified for this report.

Medium Voltage Distribution

16300

Not identified for this report.

Service and Distribution

16400

The electric meter is supplied by the electric company. The power panel is located in the basement.

Lighting

16500

100-watt bulbs are installed in recessed triangular light boxes throughout the house. According to Roland Reisley, this lighting device provides sufficient illumination and eliminates the need for floor lamps.

David Henken designed the fluorescent lights in the master bathroom. Fluorescent lighting is installed in decks and under kitchen cabinets also.

The medicine cabinets in the bathrooms of the bedroom extension are furnished with integral lighting. Lighting consists of a dual system with translucent slots.

The remaining light boxes throughout the house were designed by Wright. A triangular ceiling recess concealing a bulb is the most common light type in the house.

Special Systems

16600

A custom-designed speaker system was installed in the living room ceiling. See Acoustical Ceilings (09510). The system was designed exclusively by Wright, but Roland Reisley came up with the concept independently.

An intercom system is installed in the kitchen and one bedroom in the extension.

A heating system of electrical wires for melting snow is currently installed underneath the asphalt drive. Roland Reisley adapted the system from similar systems used in concrete sidewalks and other paved public spaces. The first installation of the system took place c. 1971. The original wire was replaced with a different wire, following a failure of the first system, c. 1988.¹⁰¹

Communications

16700

The telephone wiring system consists of rubber insulated wire. Wright's instructions for installing electricity were, "run under slabs on ground or built into masonry...Also approved conduit switches in wood walls." Wiring throughout is colored and coded.¹⁰²

Electrical Resistance Heating

16850

Not applicable.

¹⁰¹ Interview with Roland Reisley, Spring 1997.

¹⁰² Frank Lloyd Wright, Instructions for Electricity, Sheet No. 7, Final Plans for the Roland and Ronny Reisley House, 1951.

Controls

16900

Not identified for this report.

Testing

16950

Not identified for this report.

ILLUSTRATIONS



Illustration 1





Illustration 3

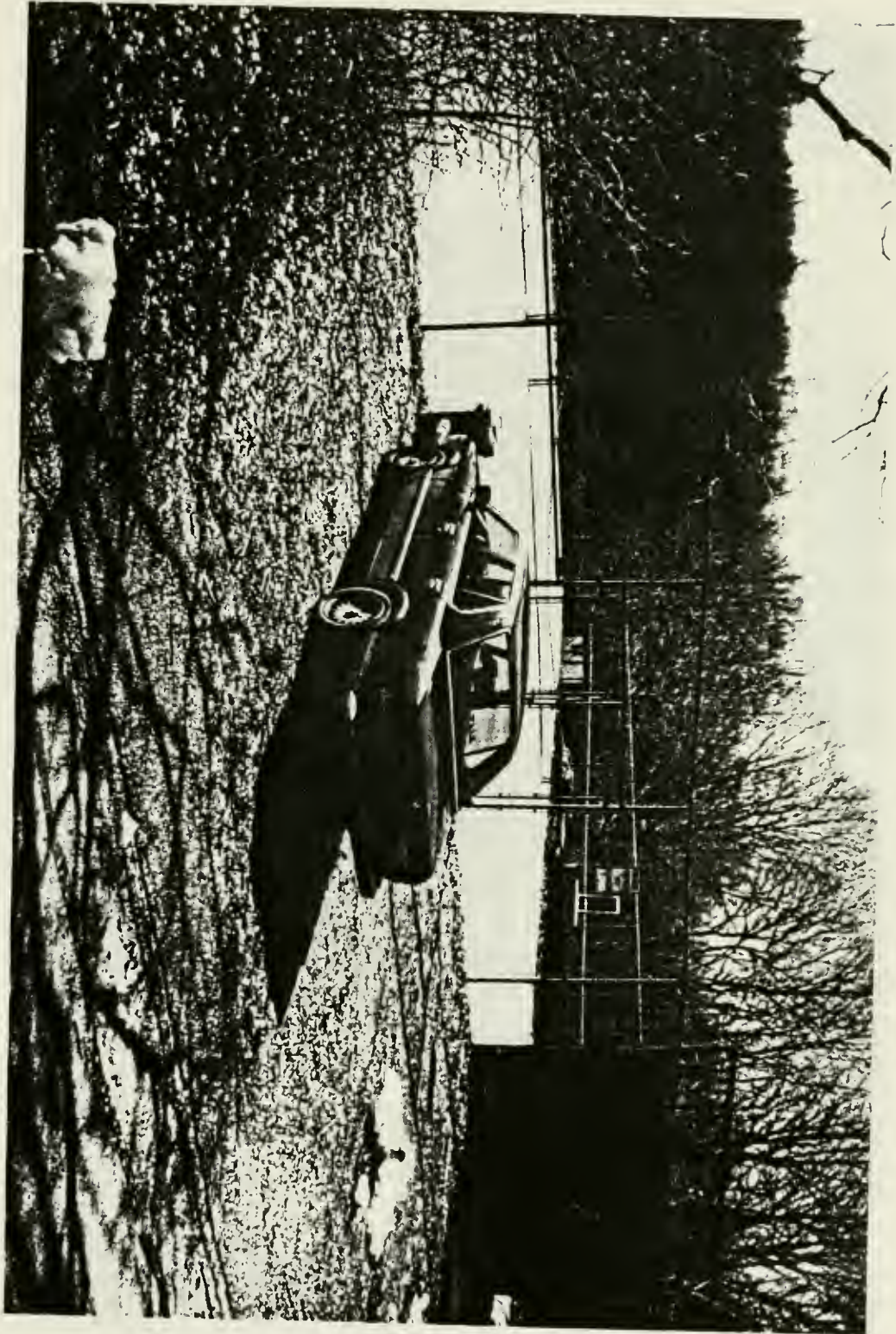


Illustration 4





Illustration 6

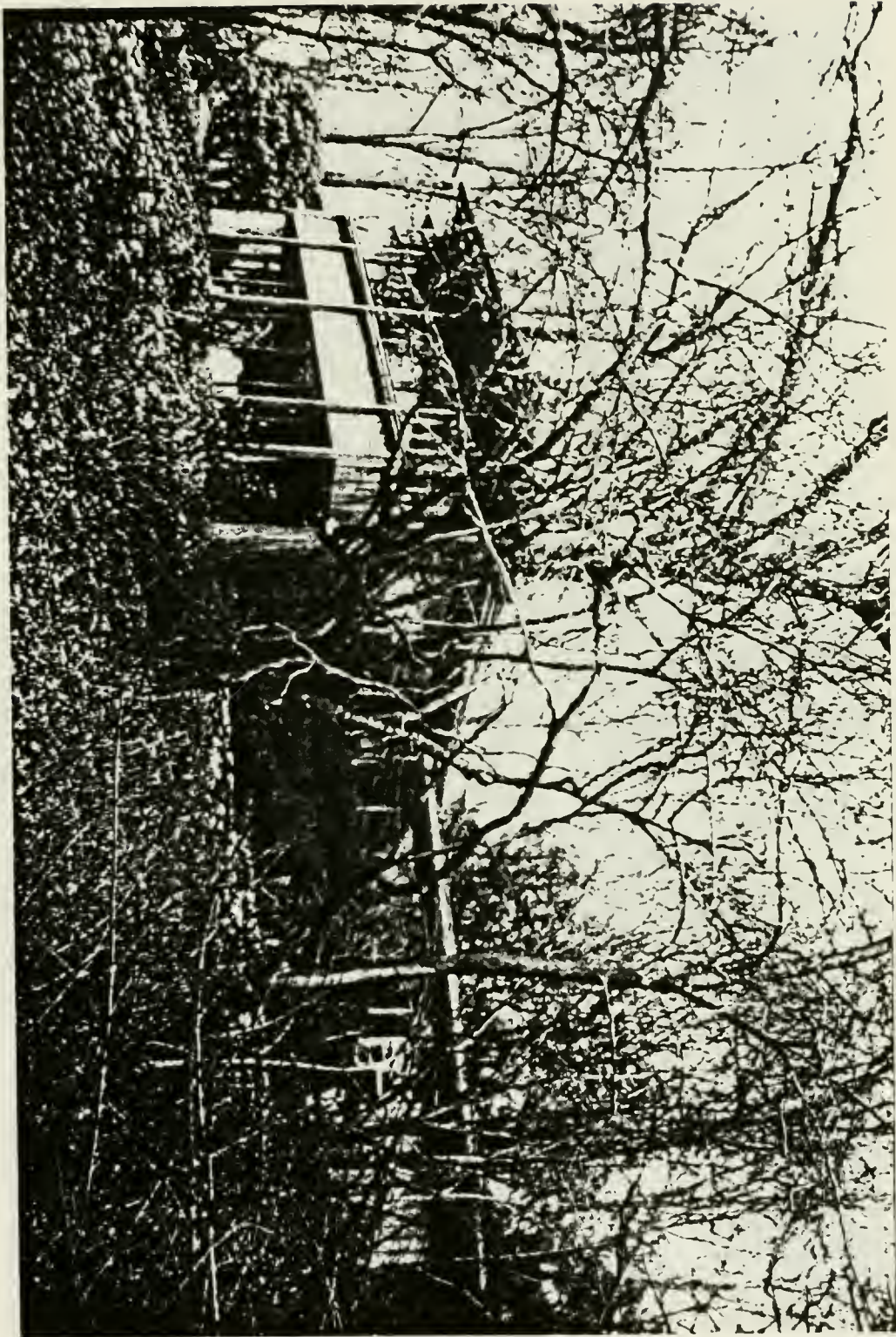


Illustration 7

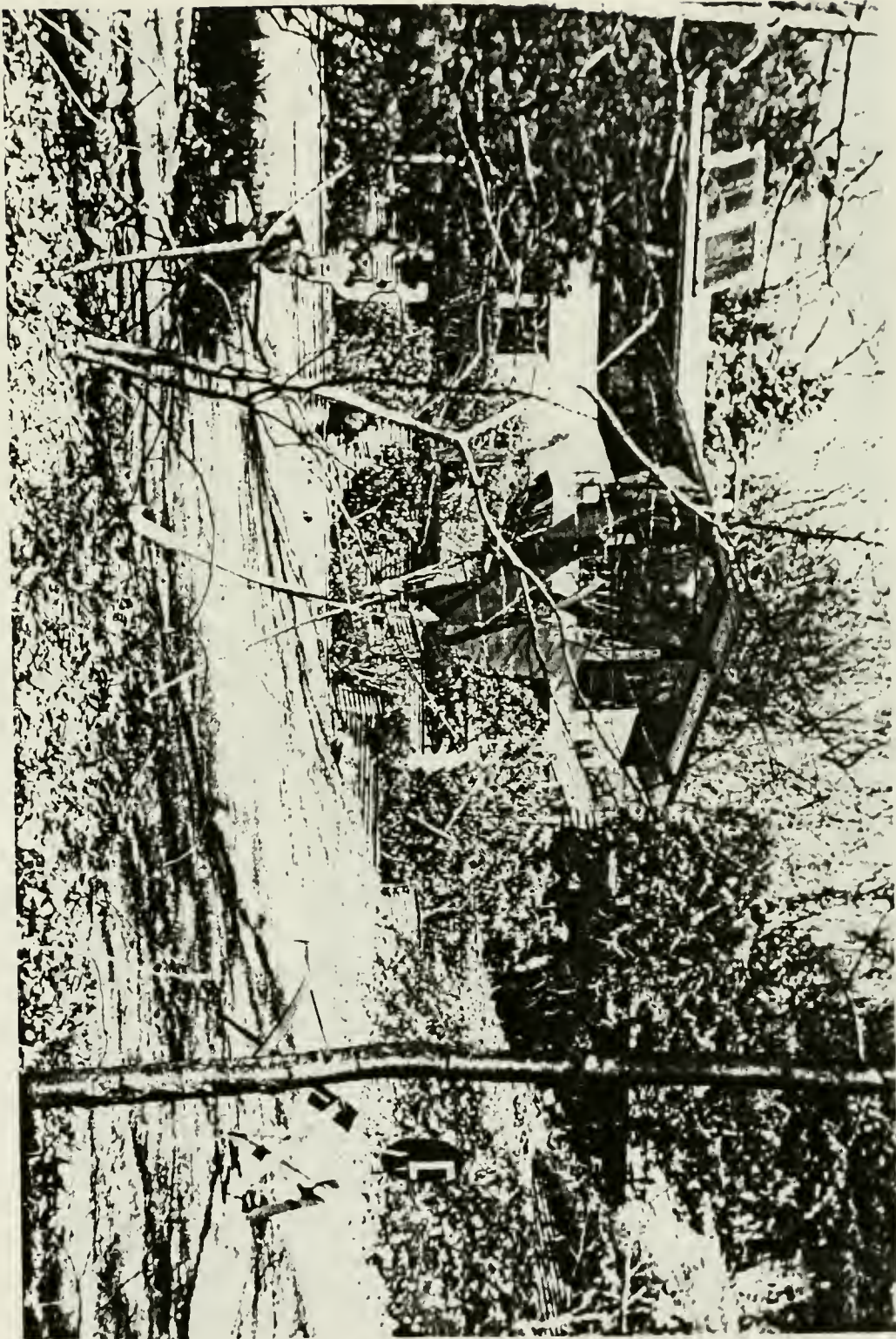


Illustration 8

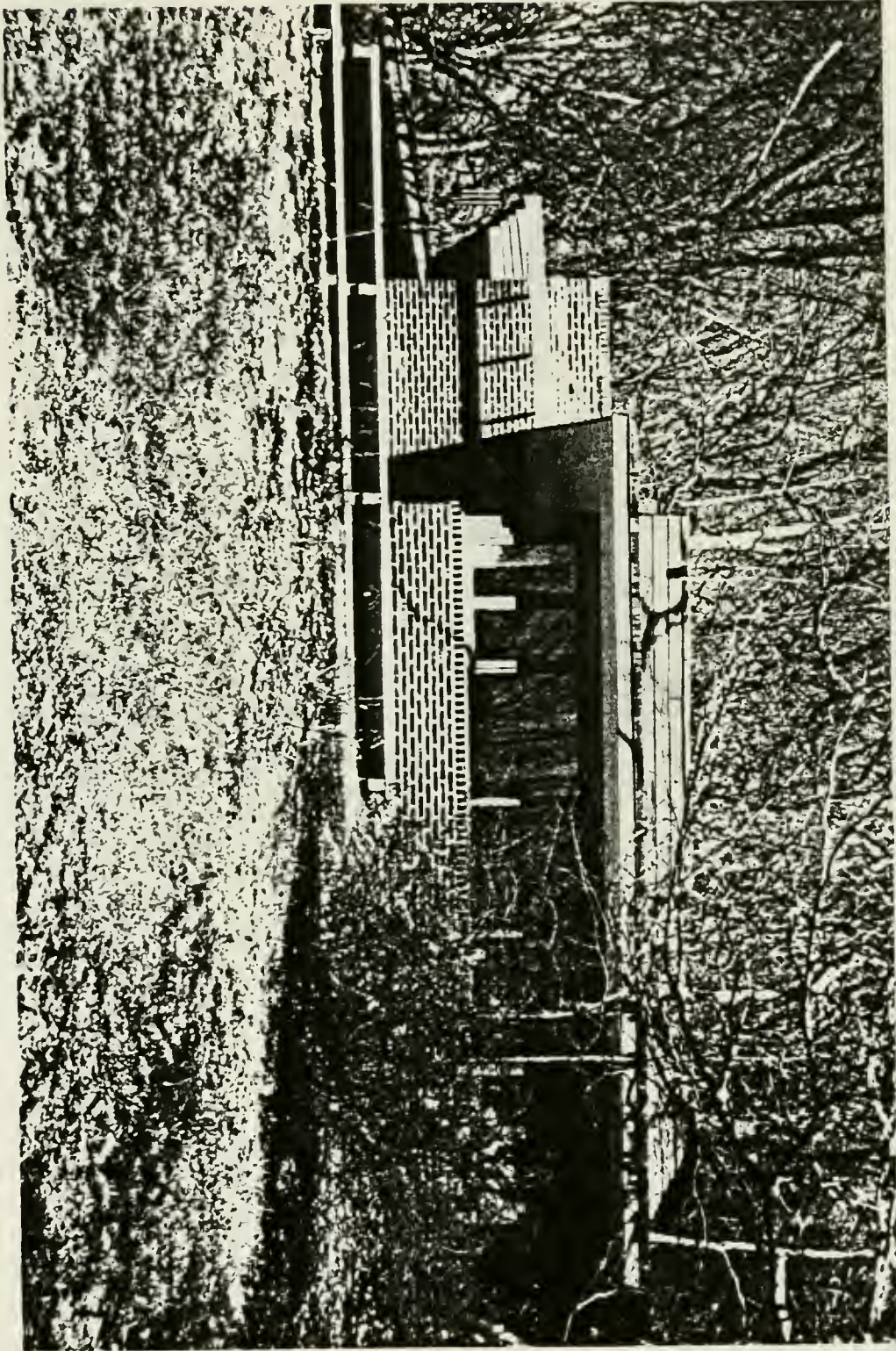
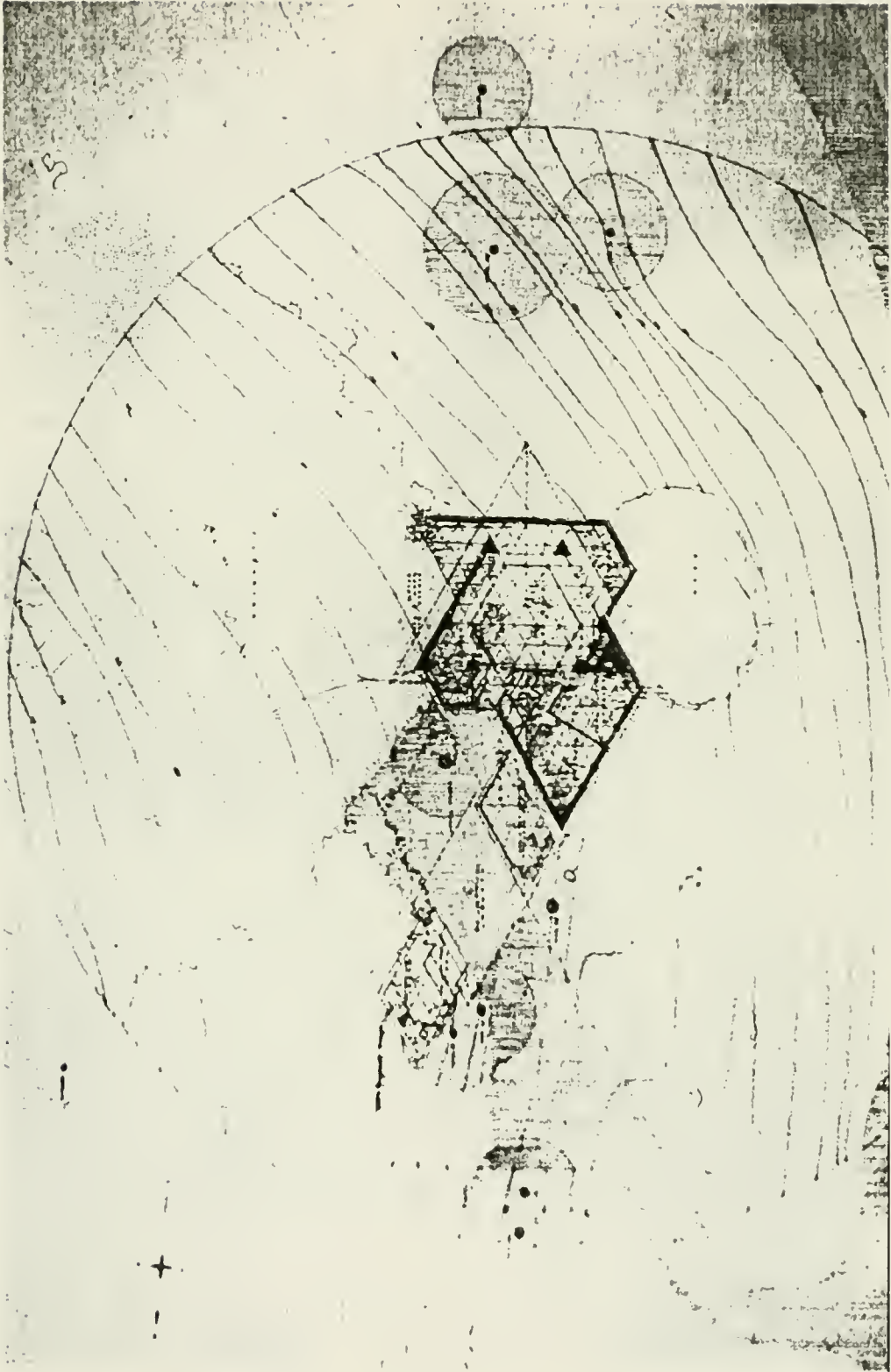


Illustration 9



ADDITION TO THE
RESIDENCE FOR MR. & MRS. ROLAND REISLEY UNIONA, E.
AT PLEASANT HARBOR
FRANK LLOYD WRIGHT ARCHITECT

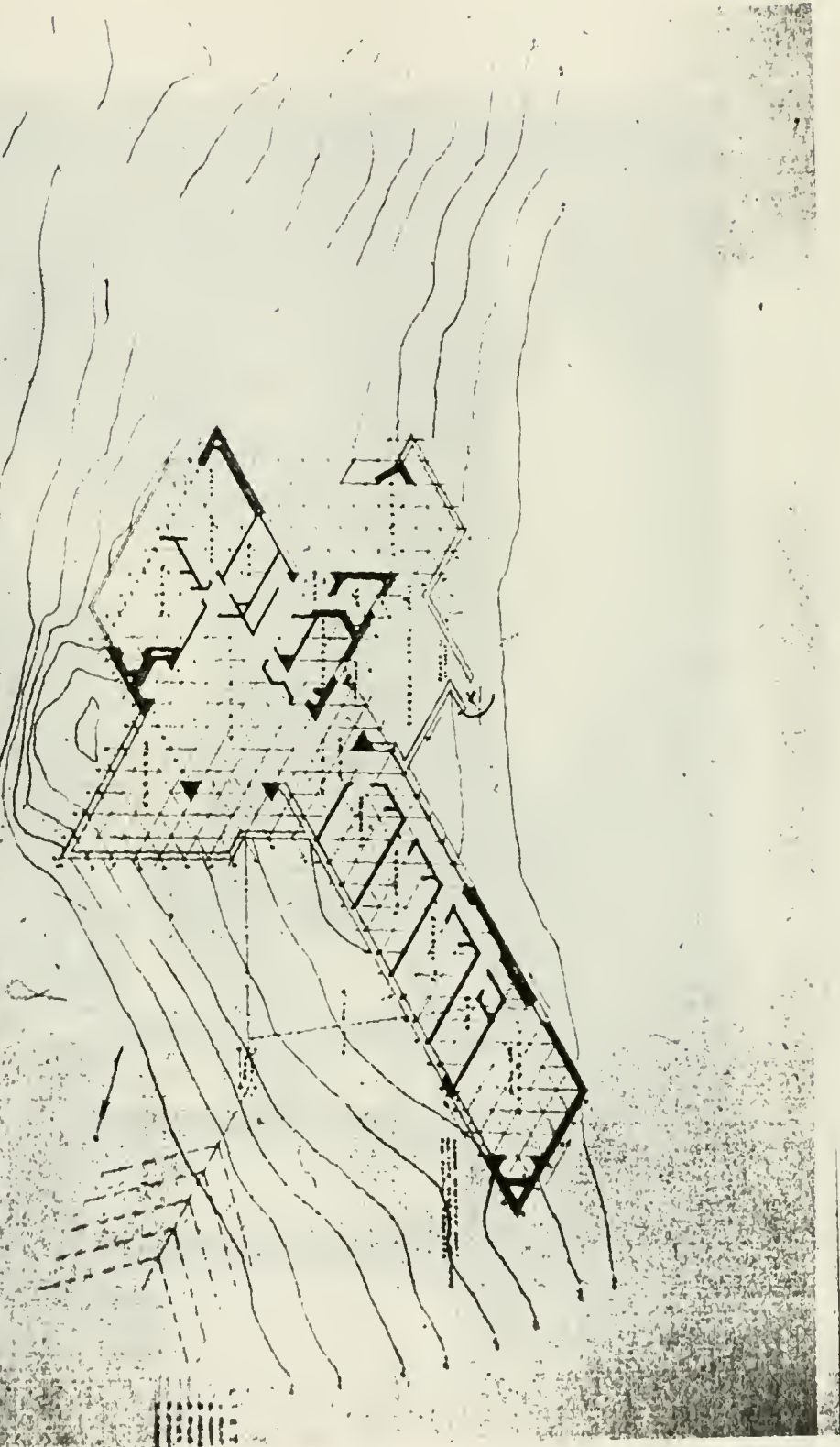
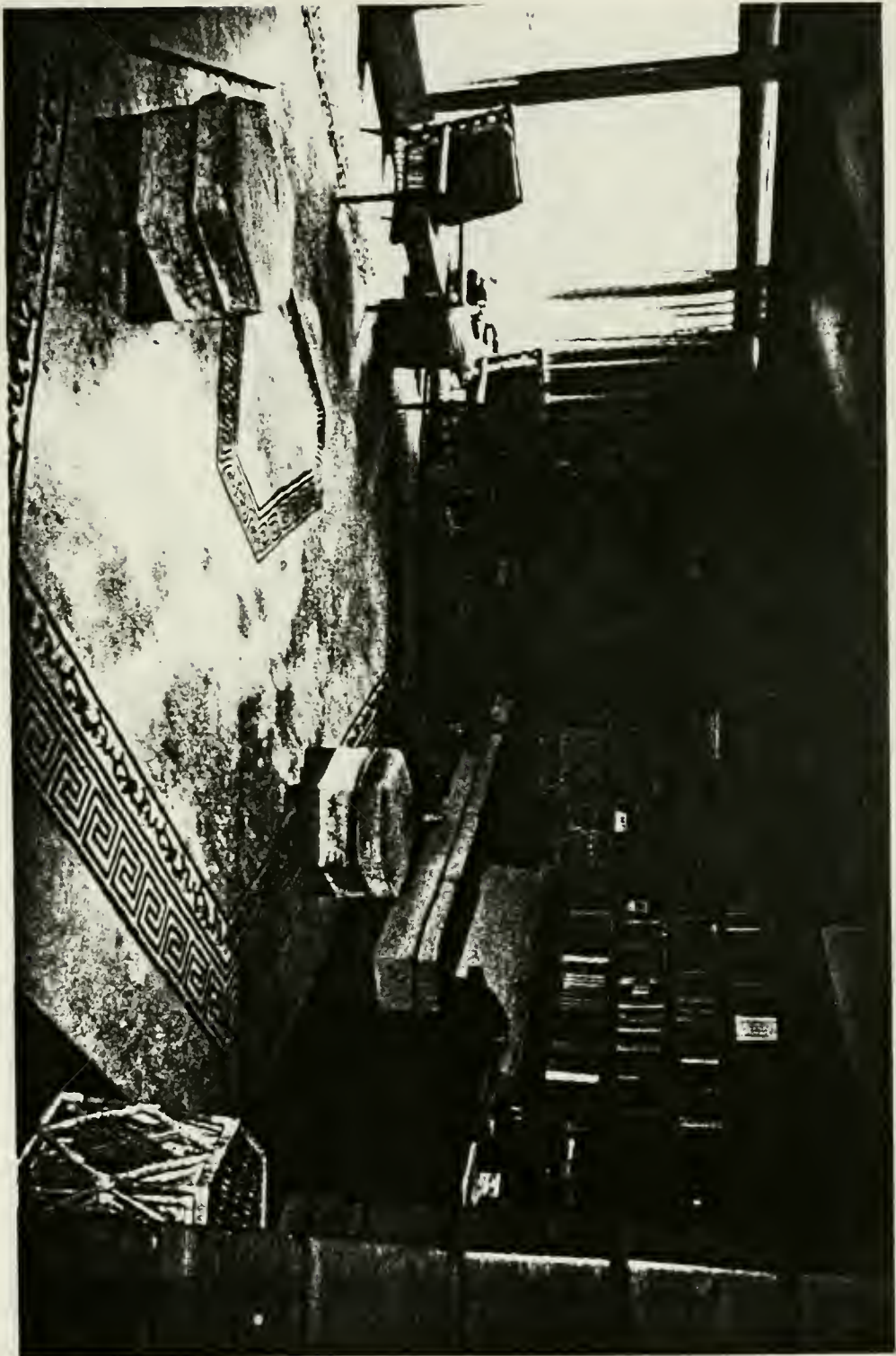
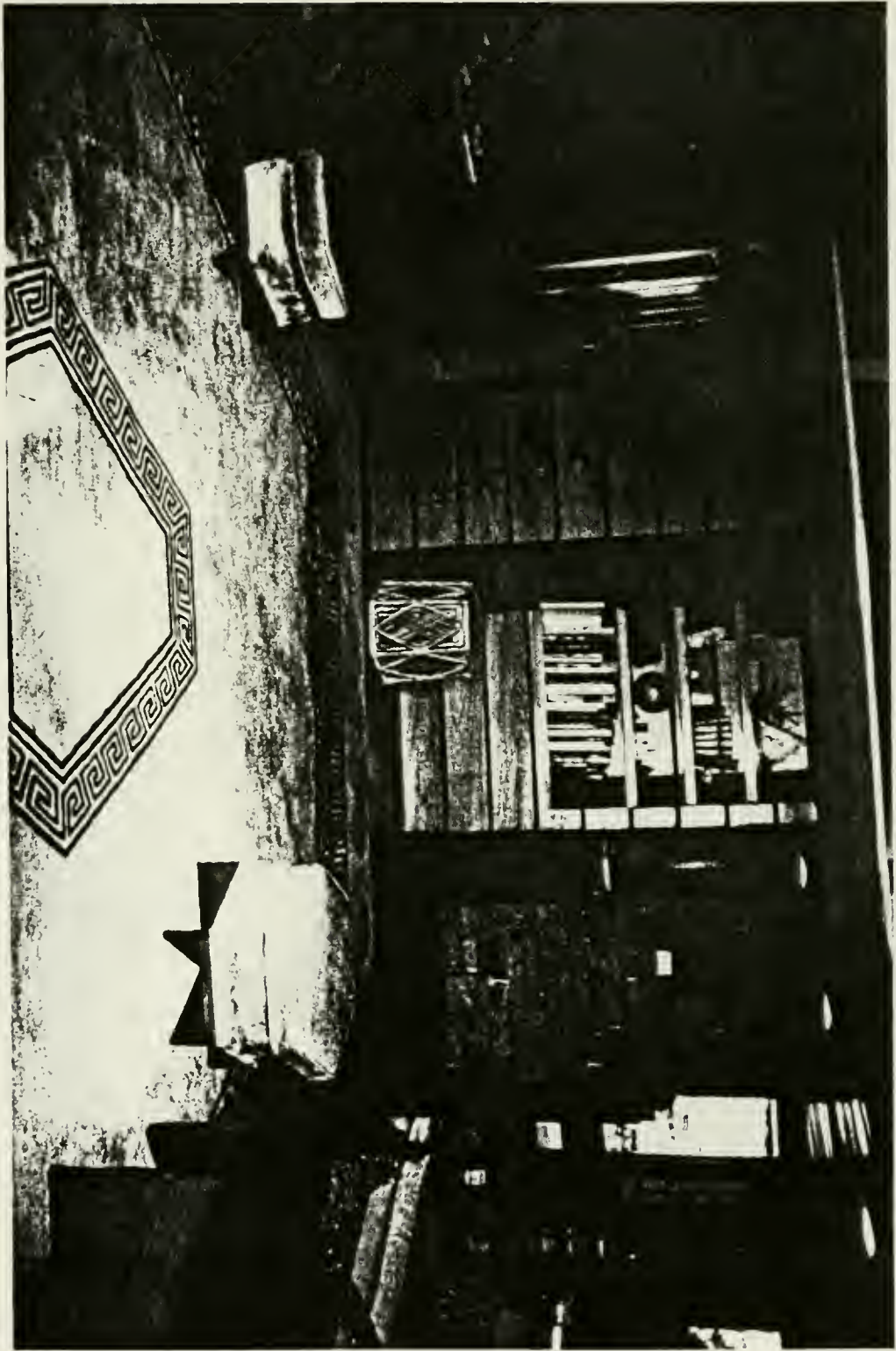




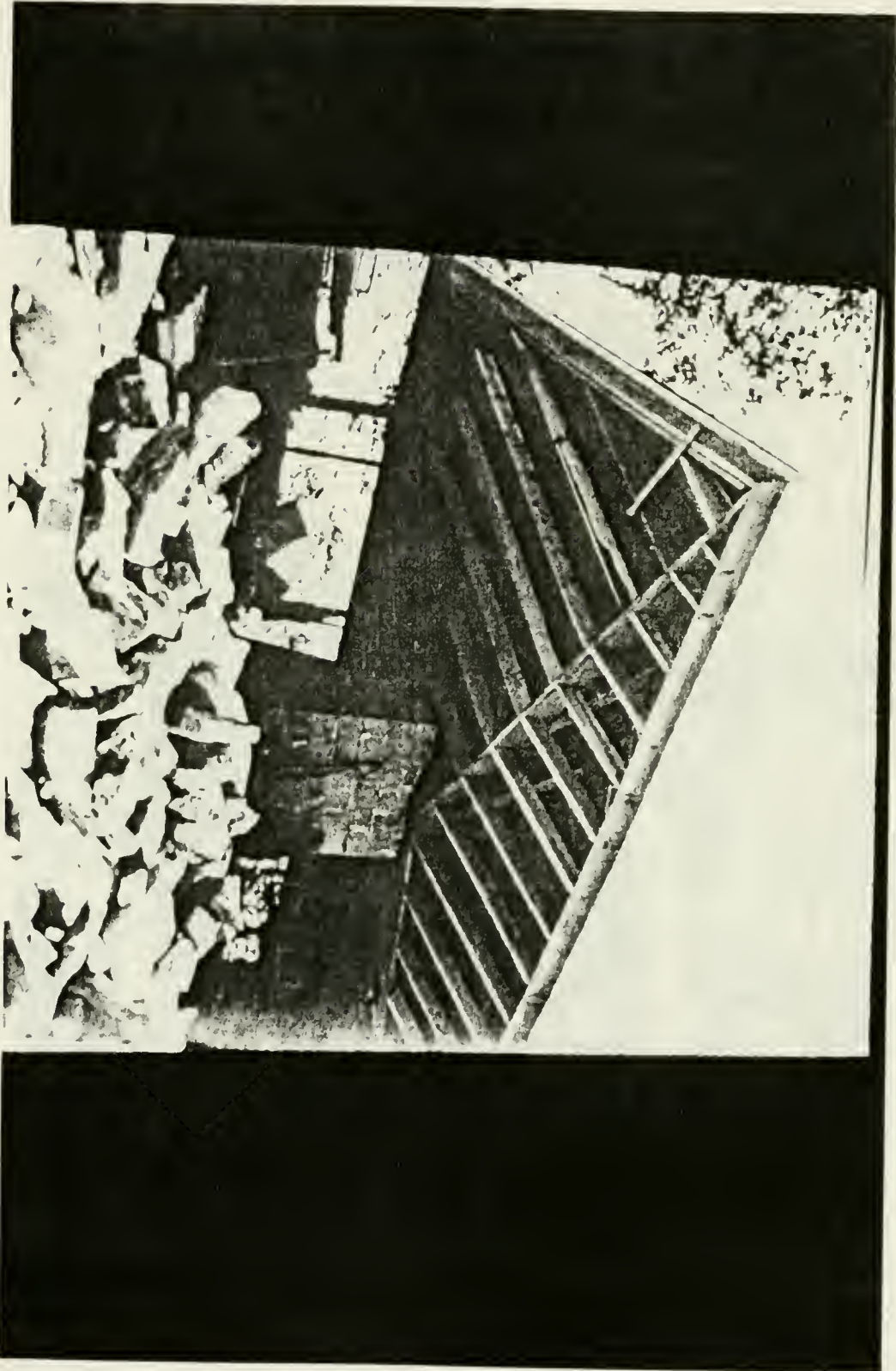
Illustration 12

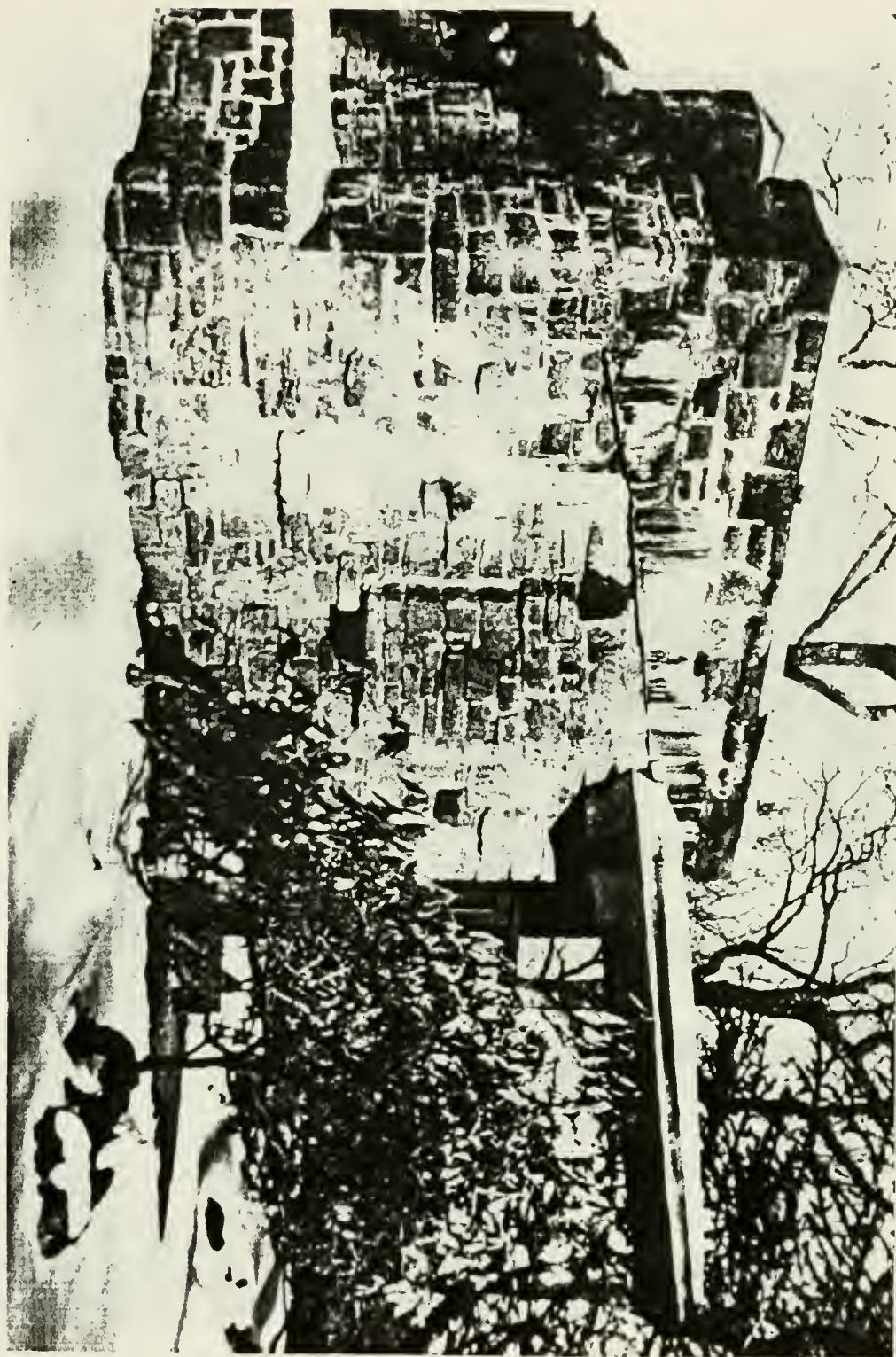


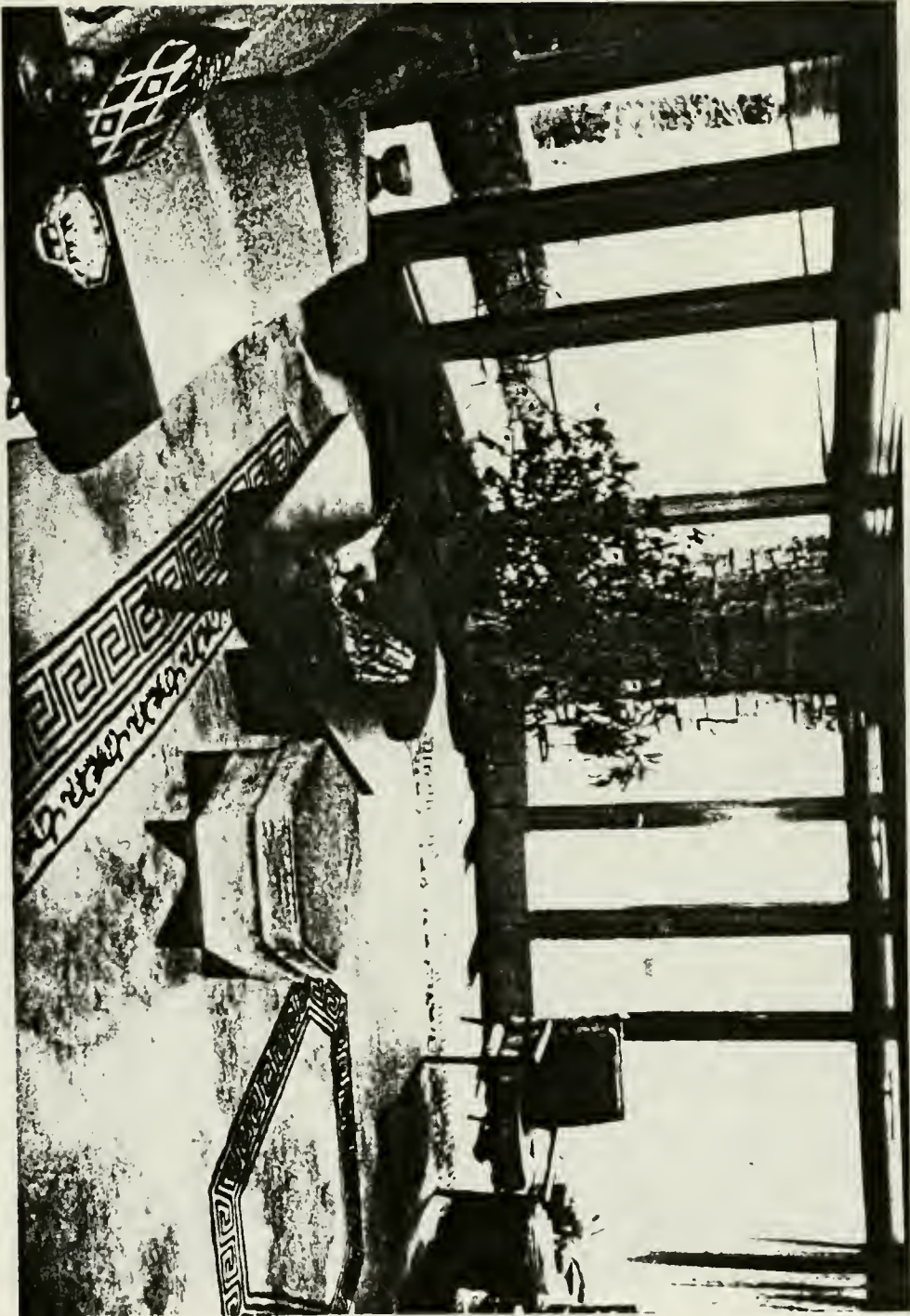




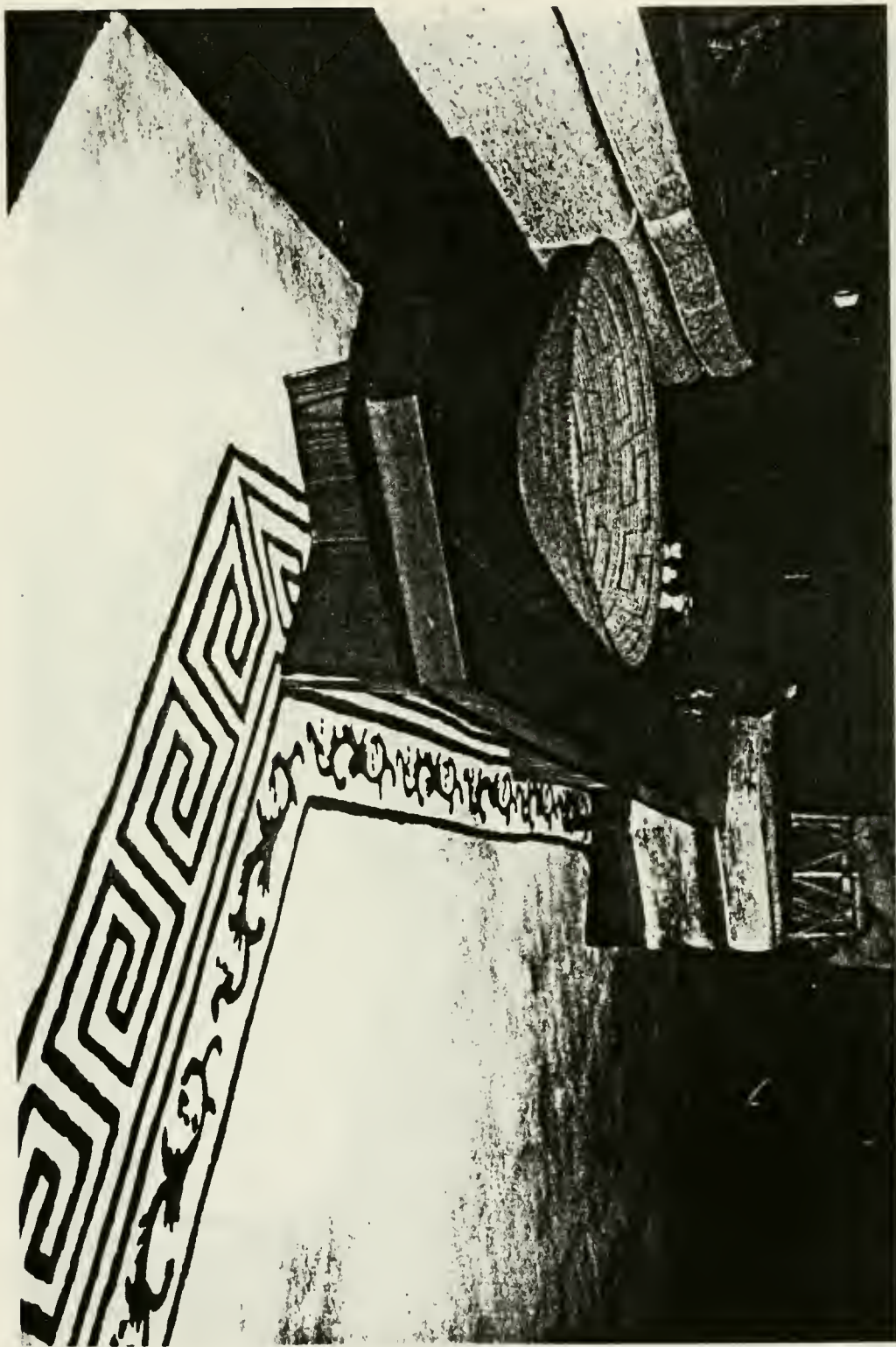


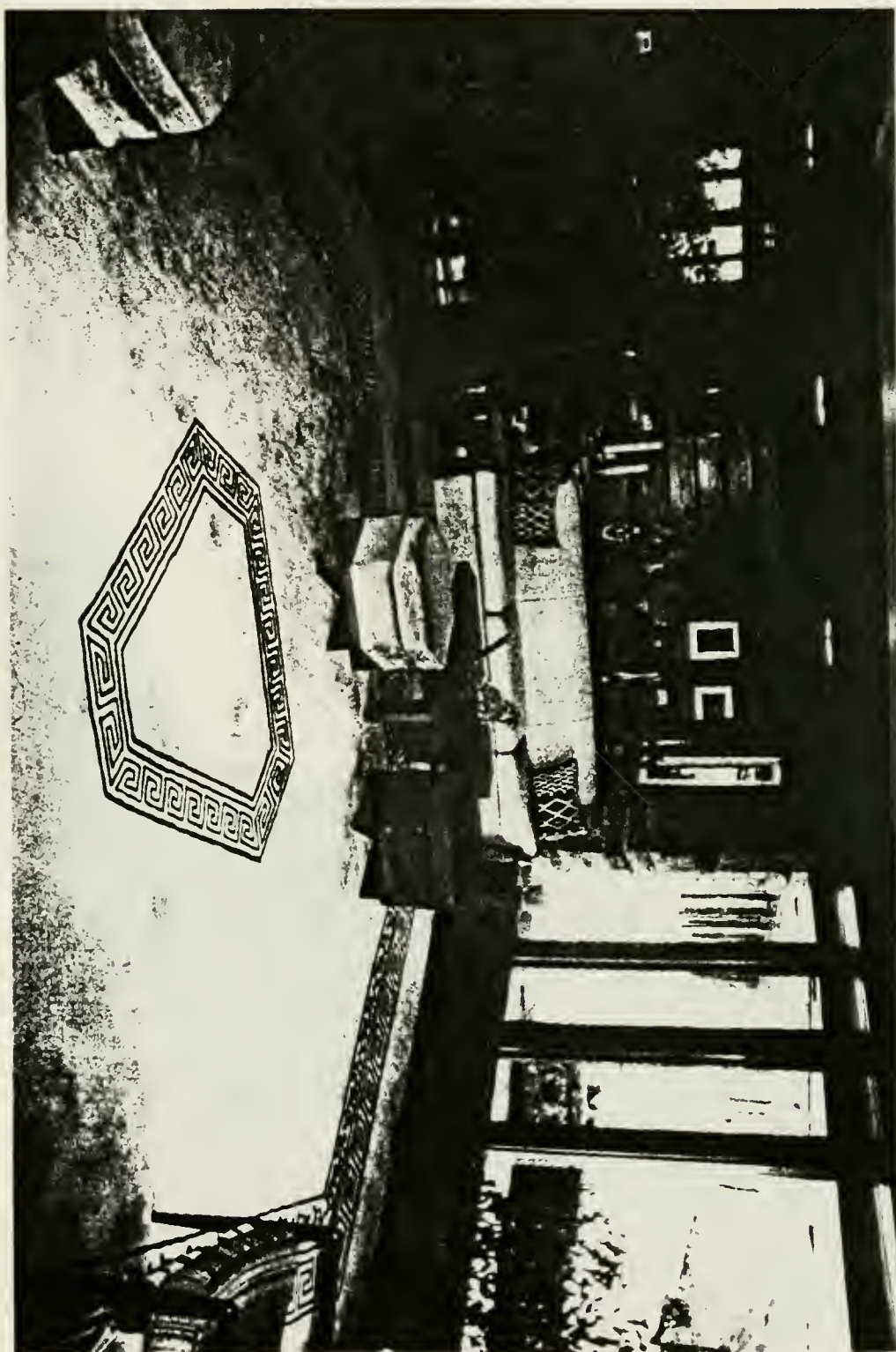


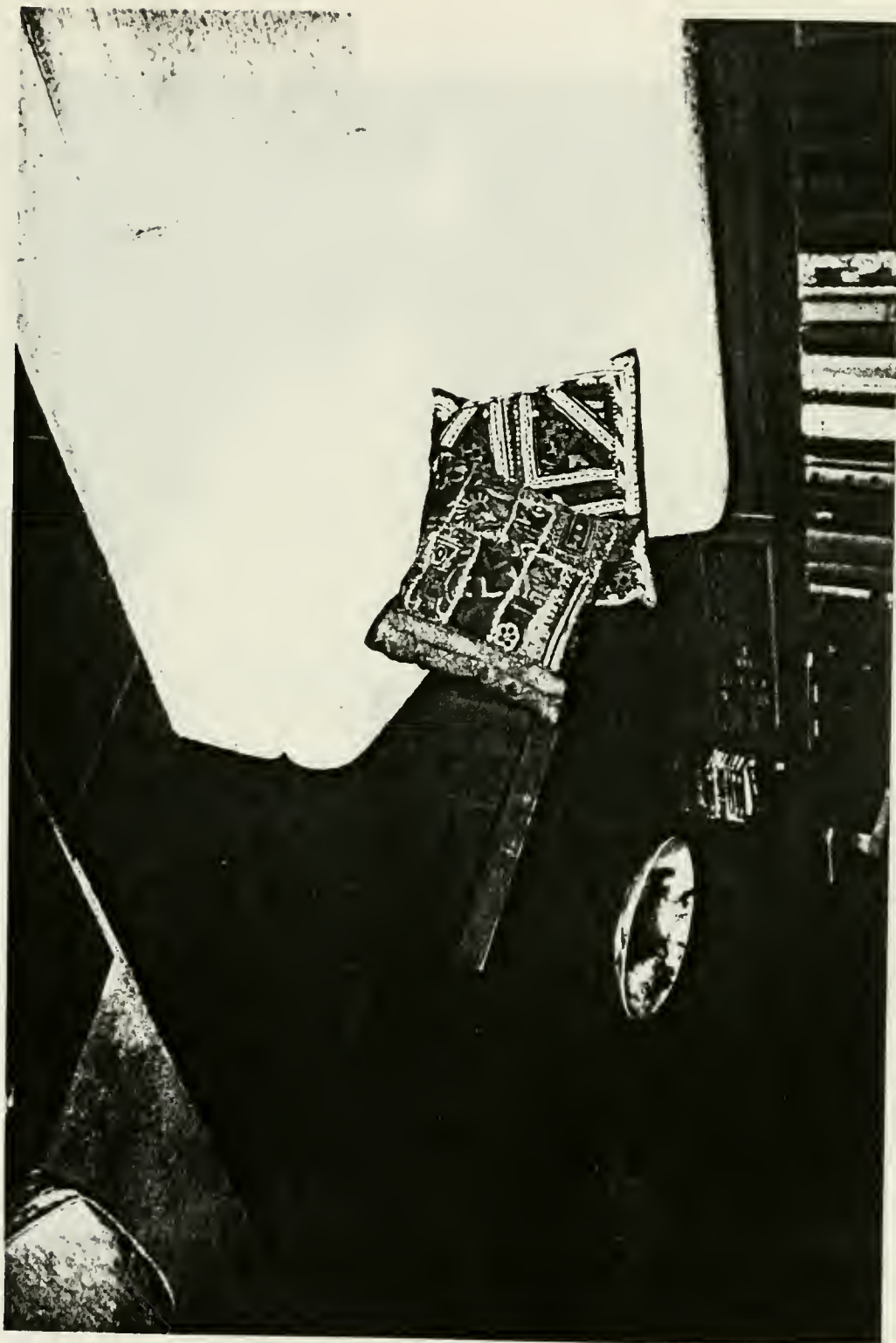


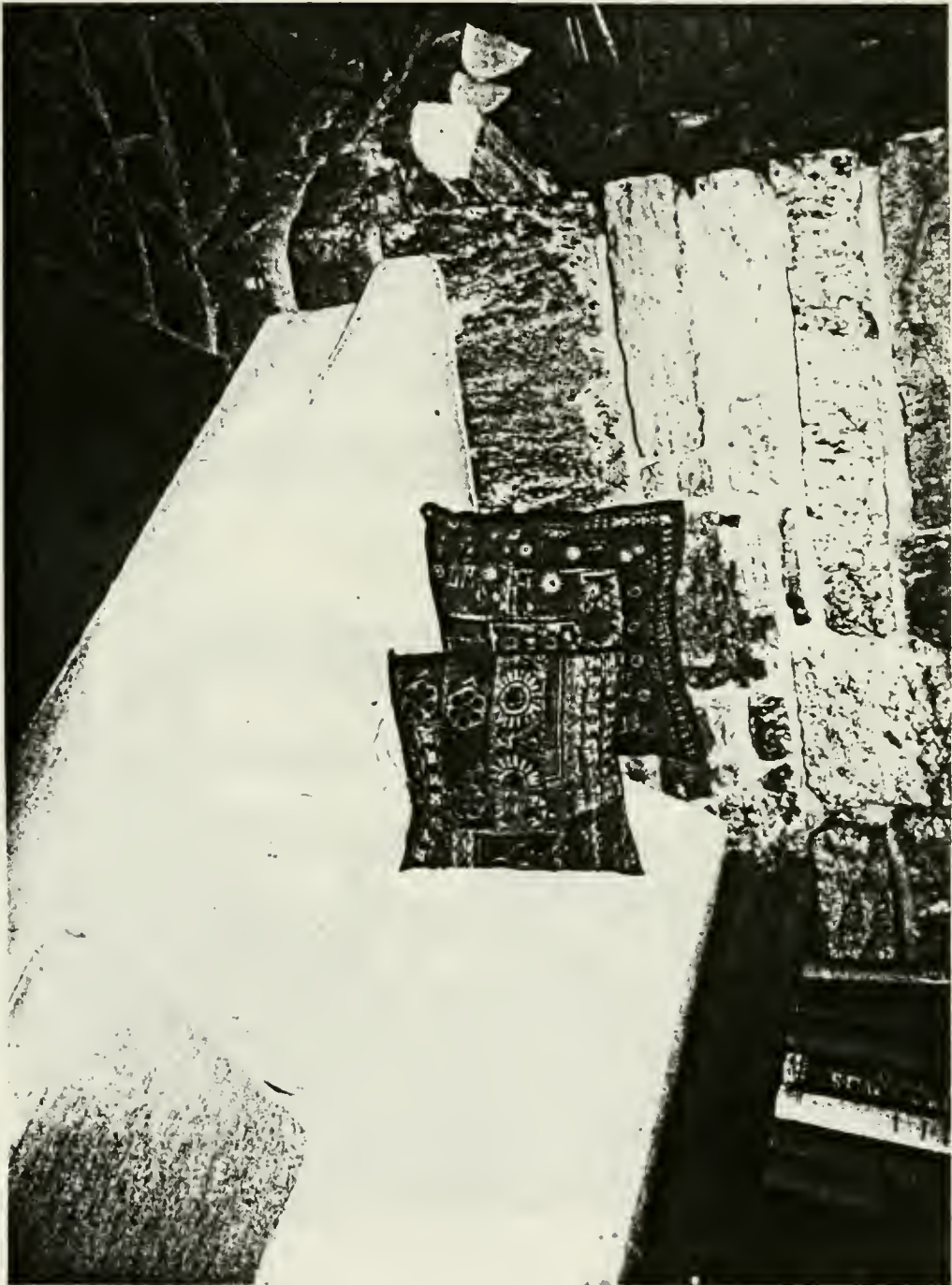






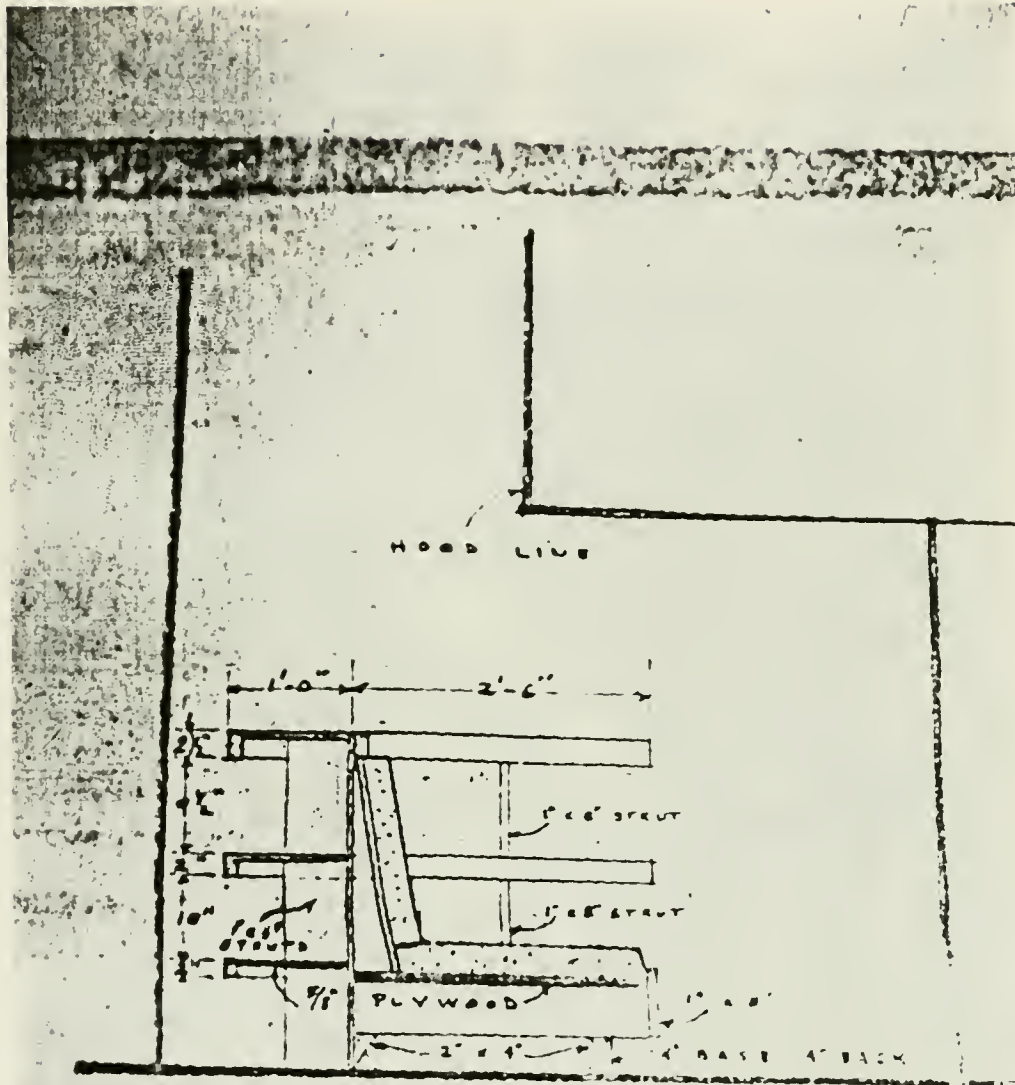






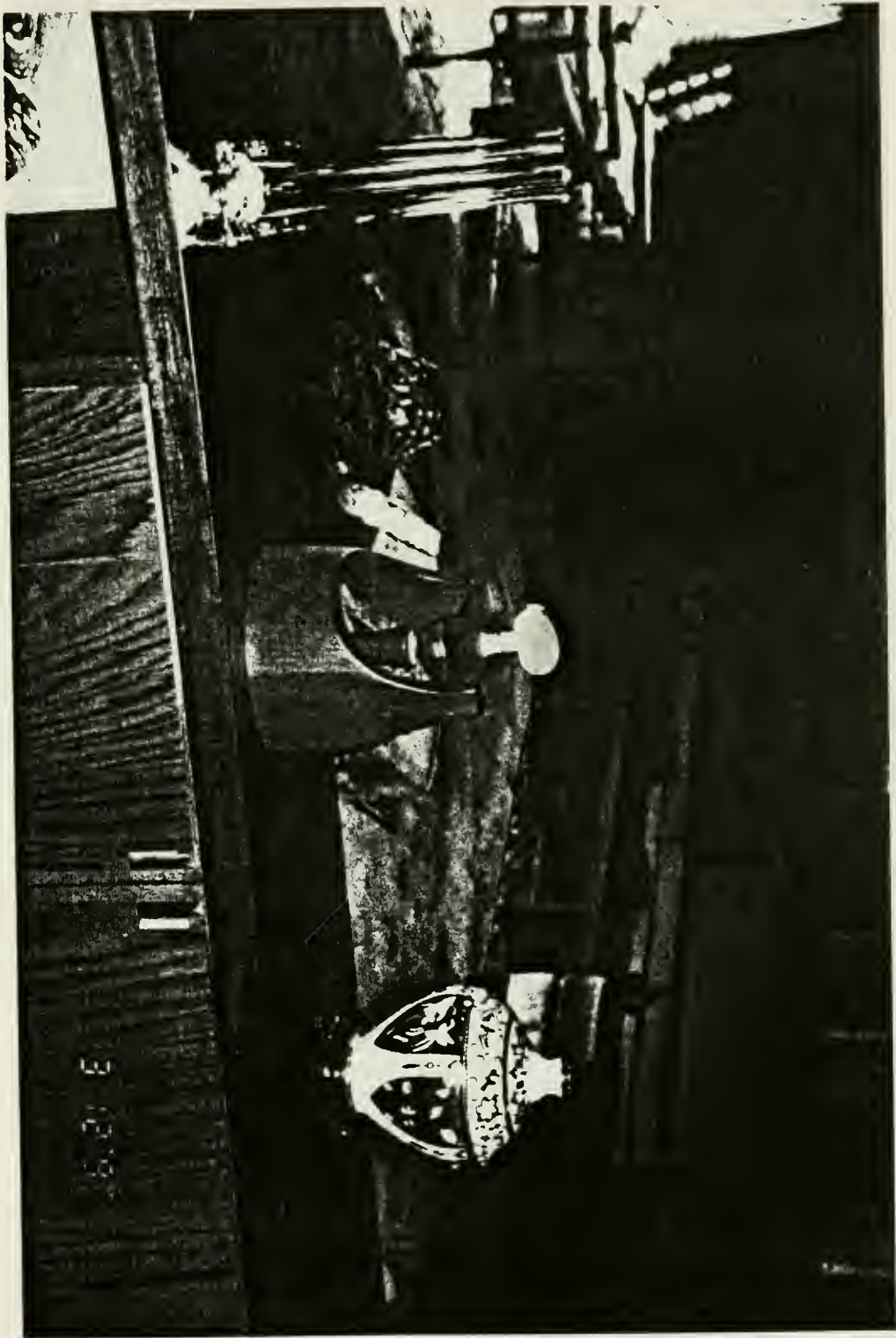




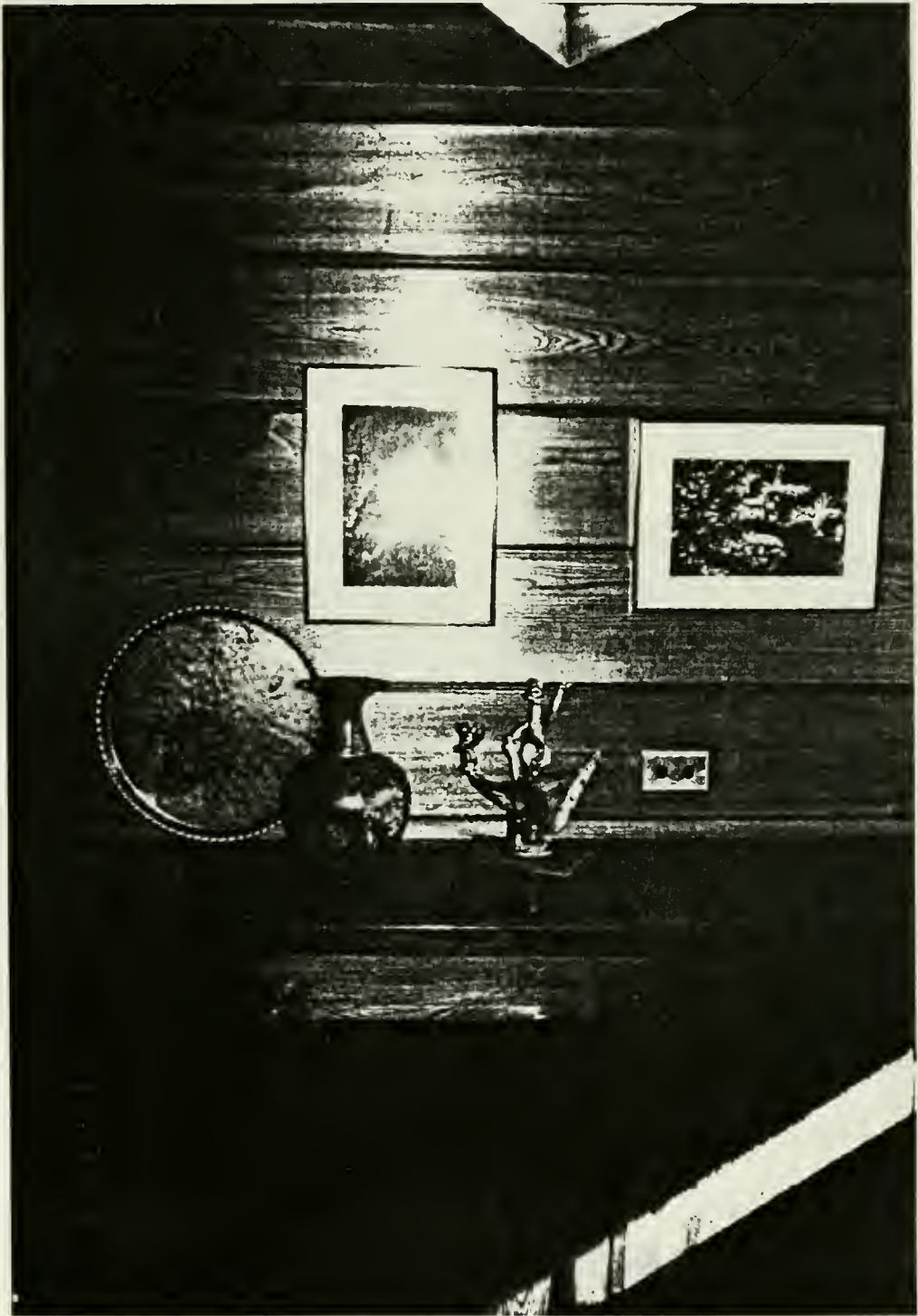


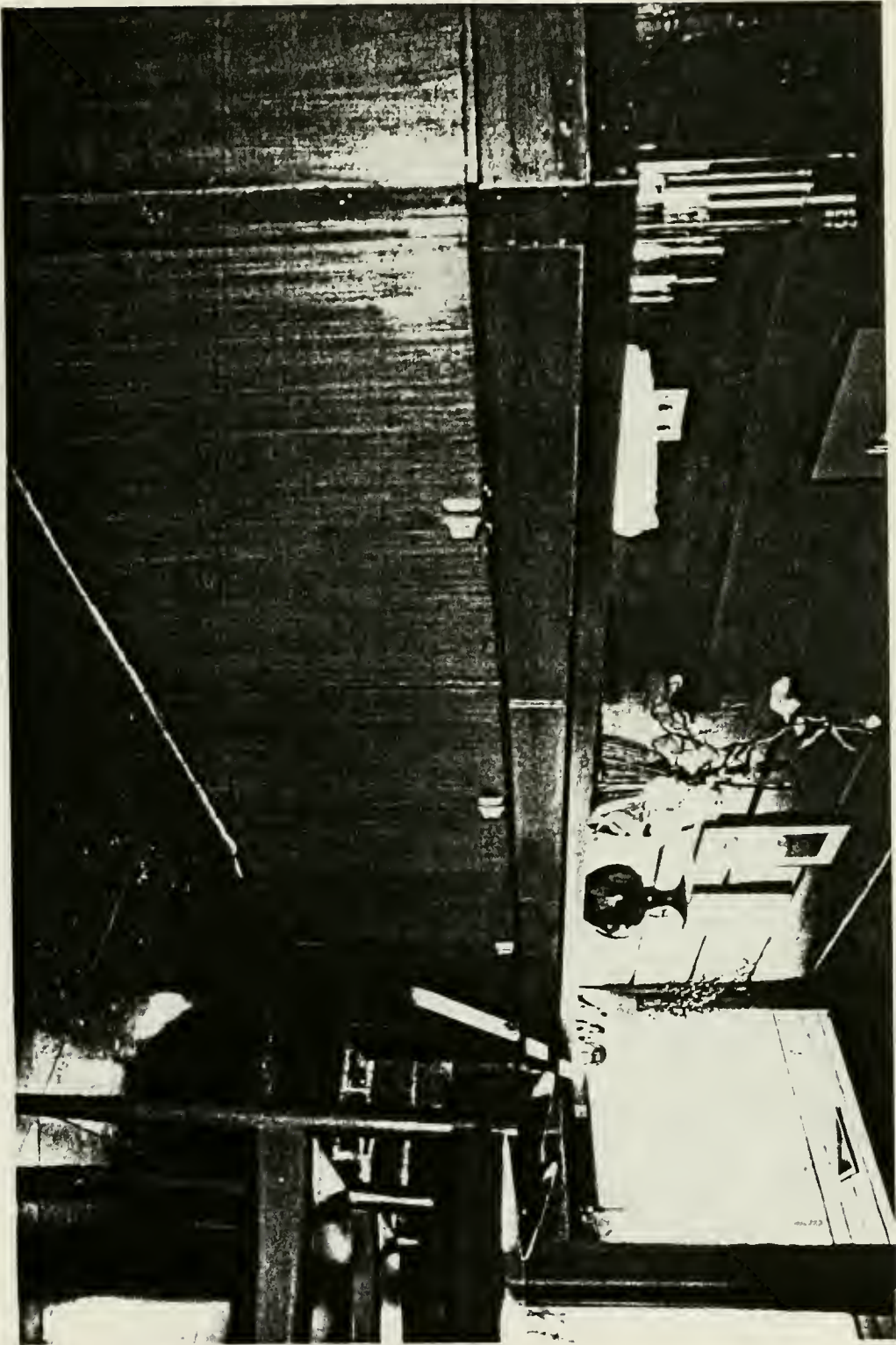
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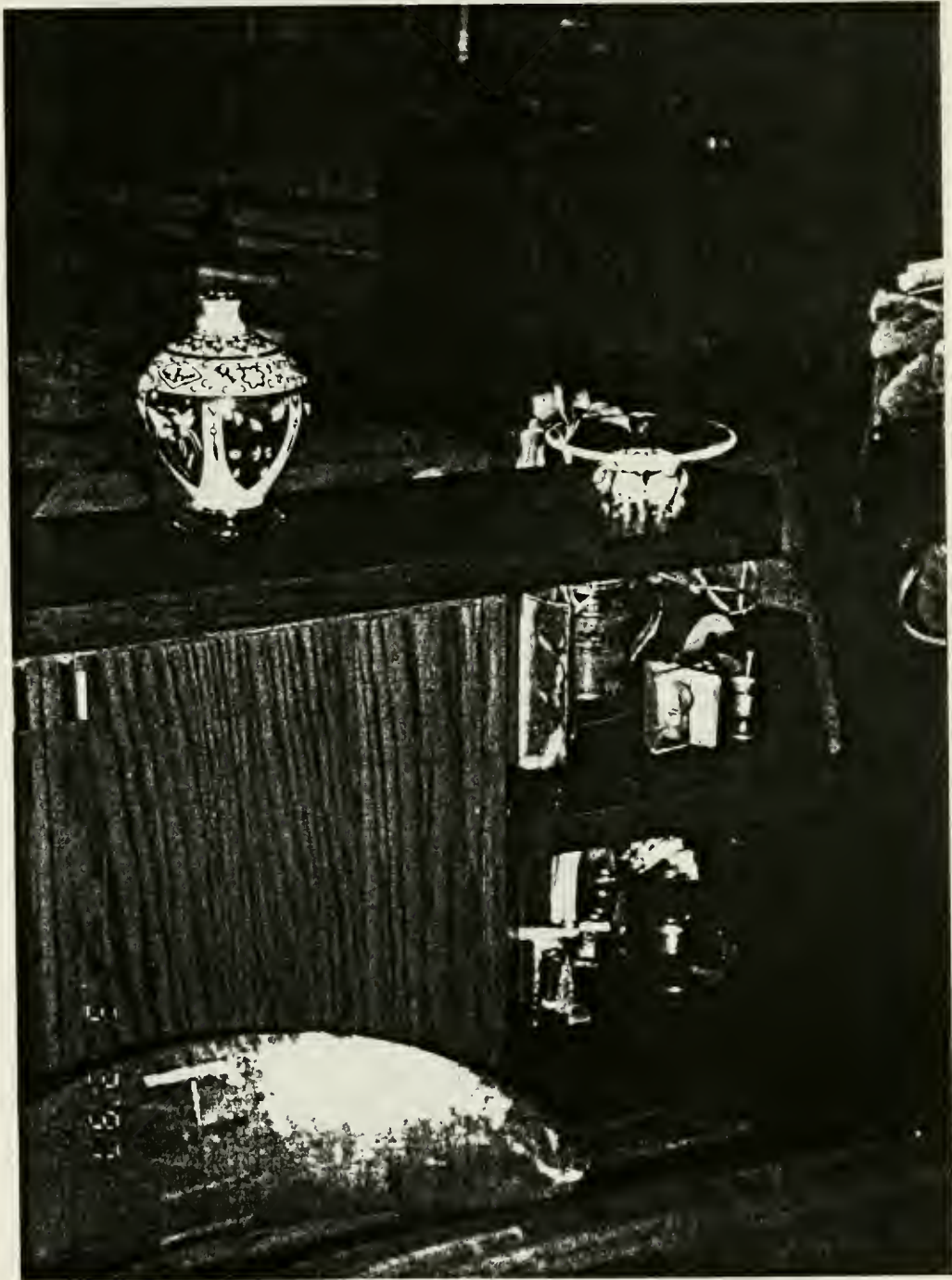
Illustration 28





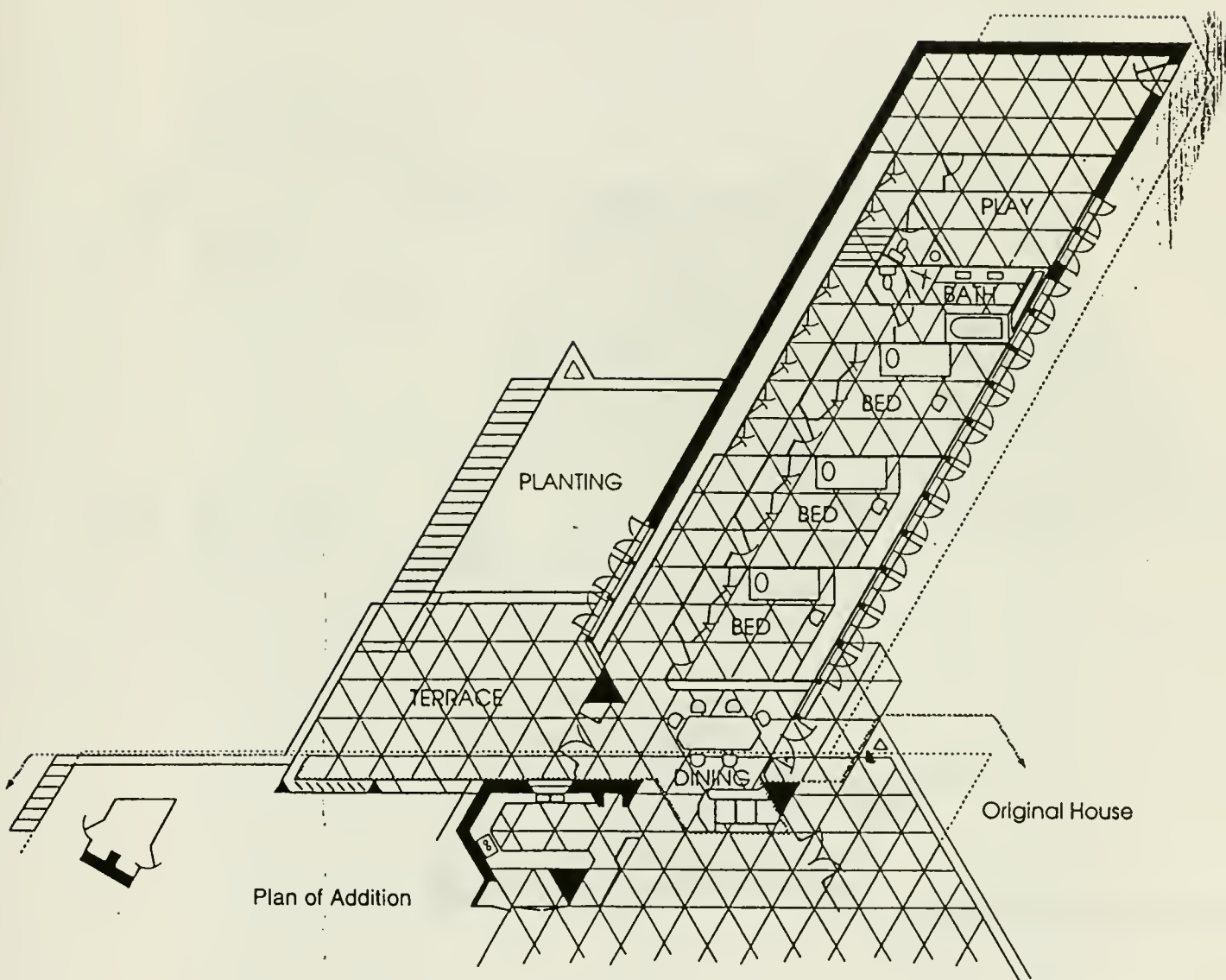


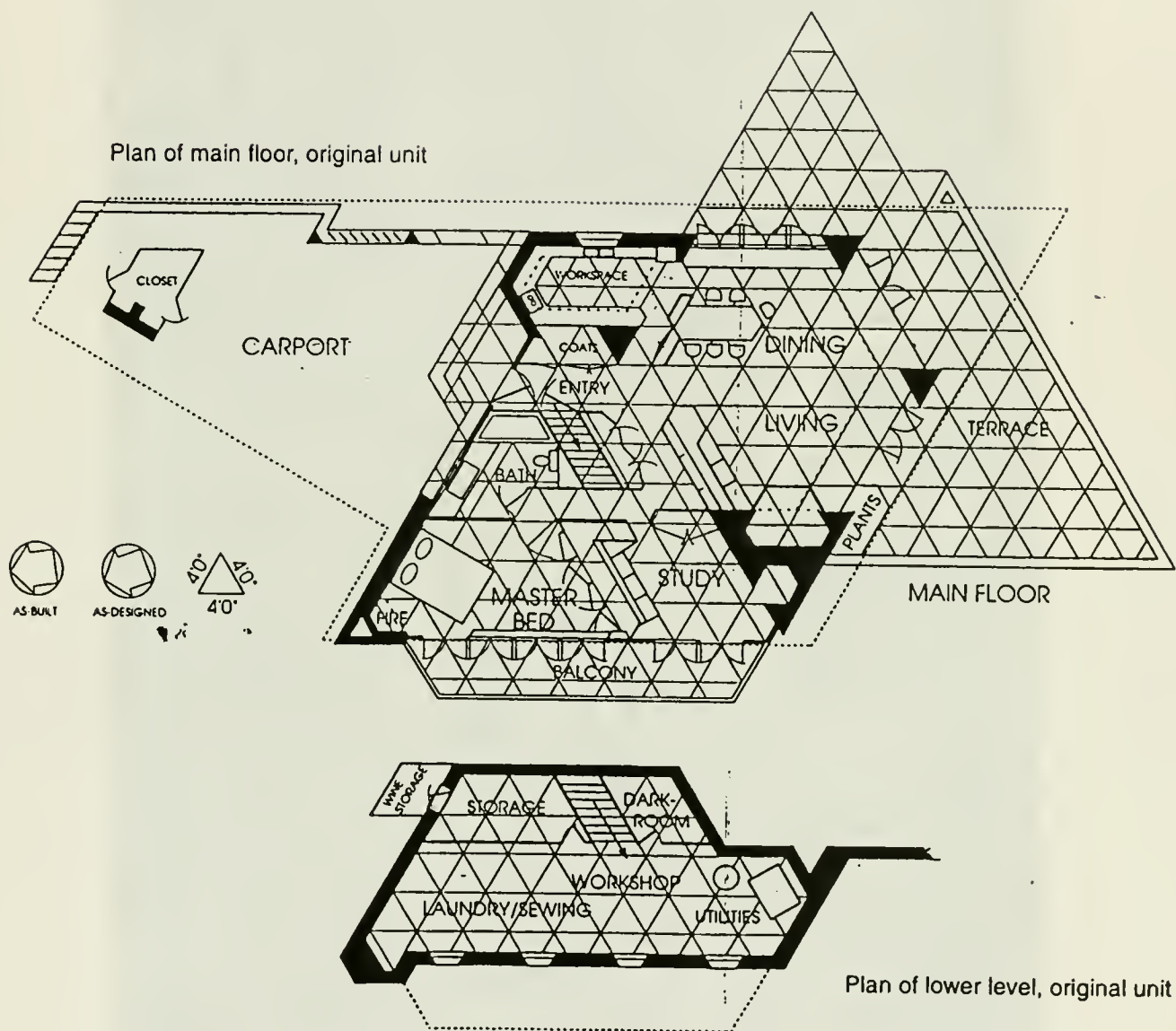




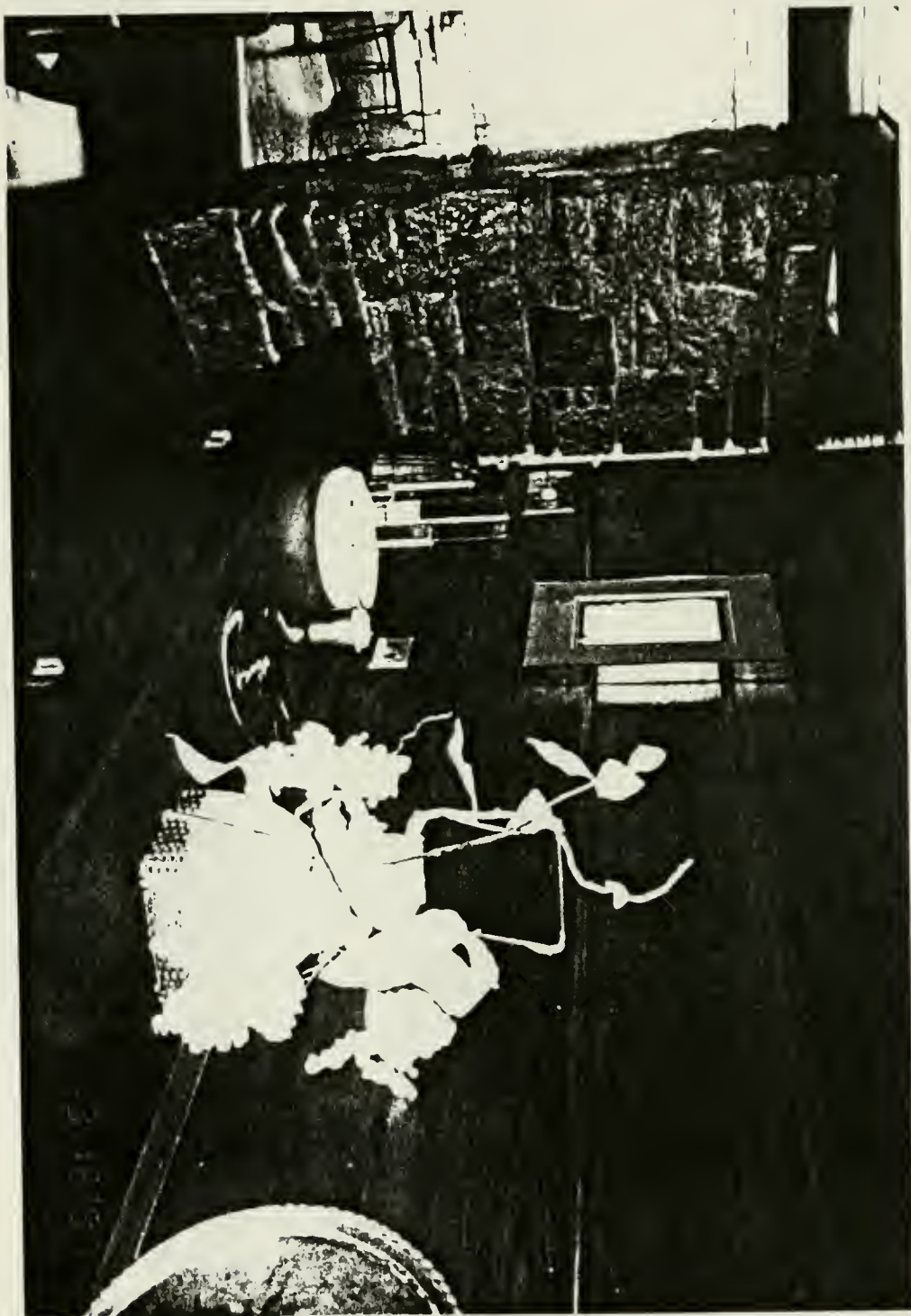


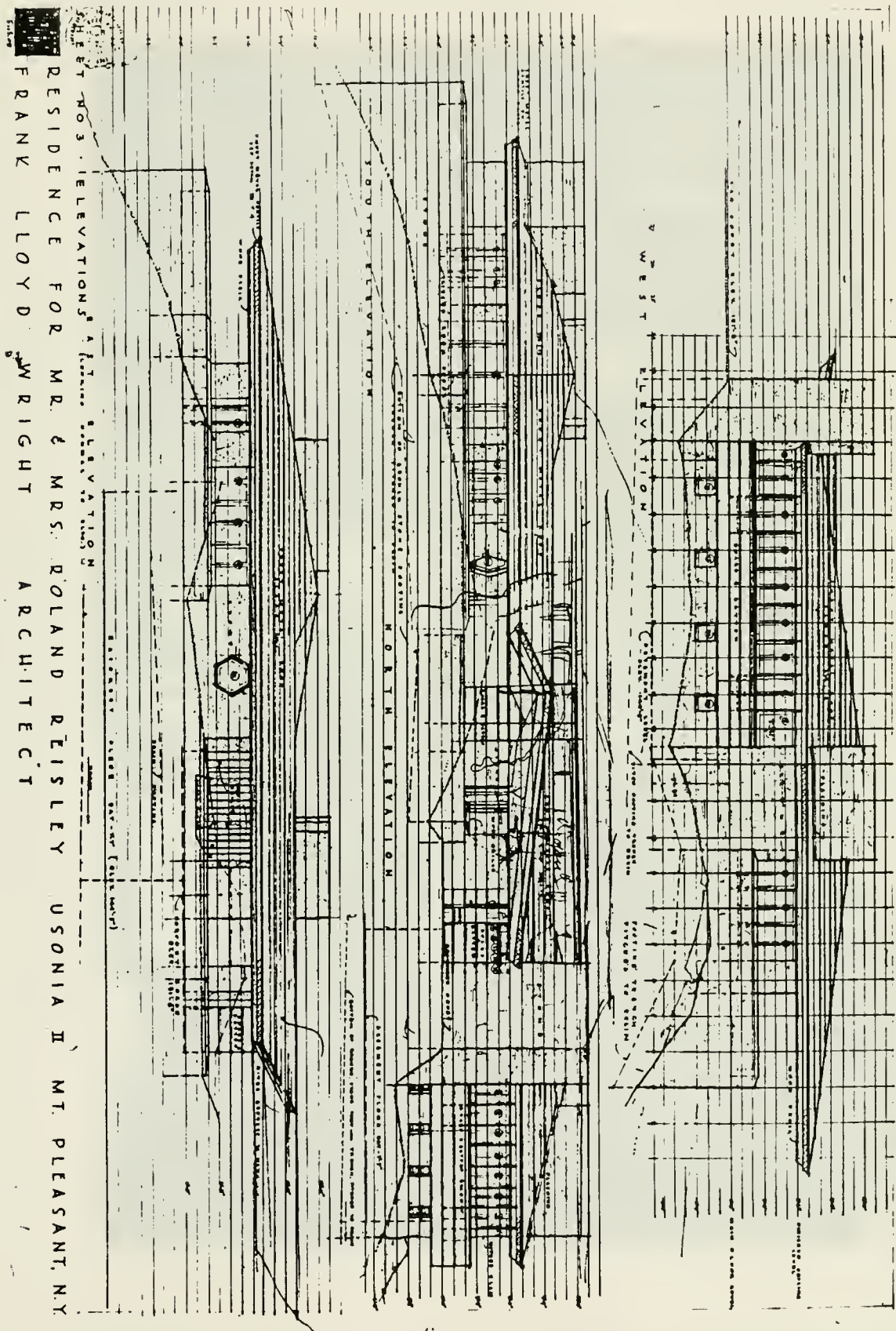




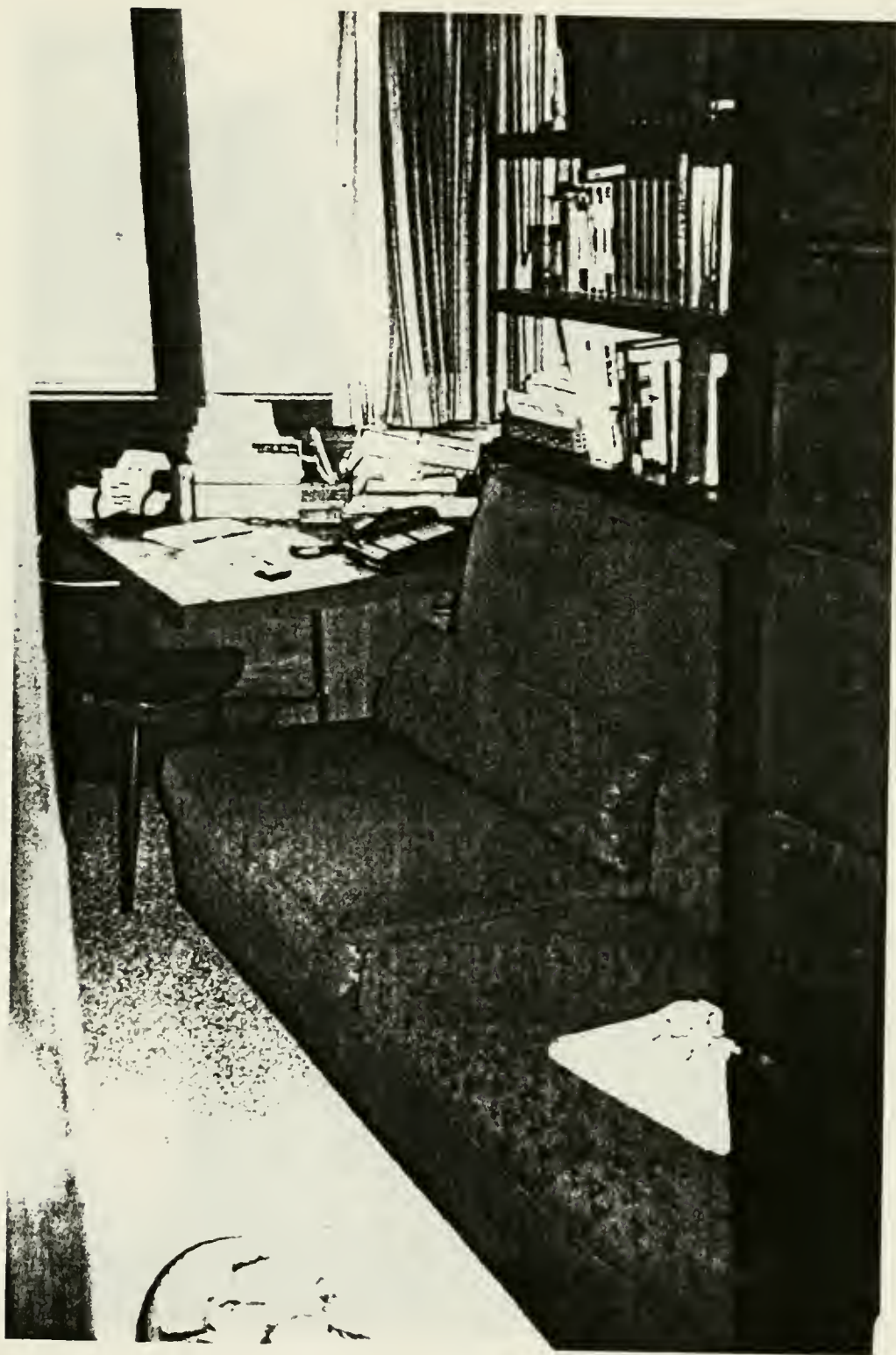


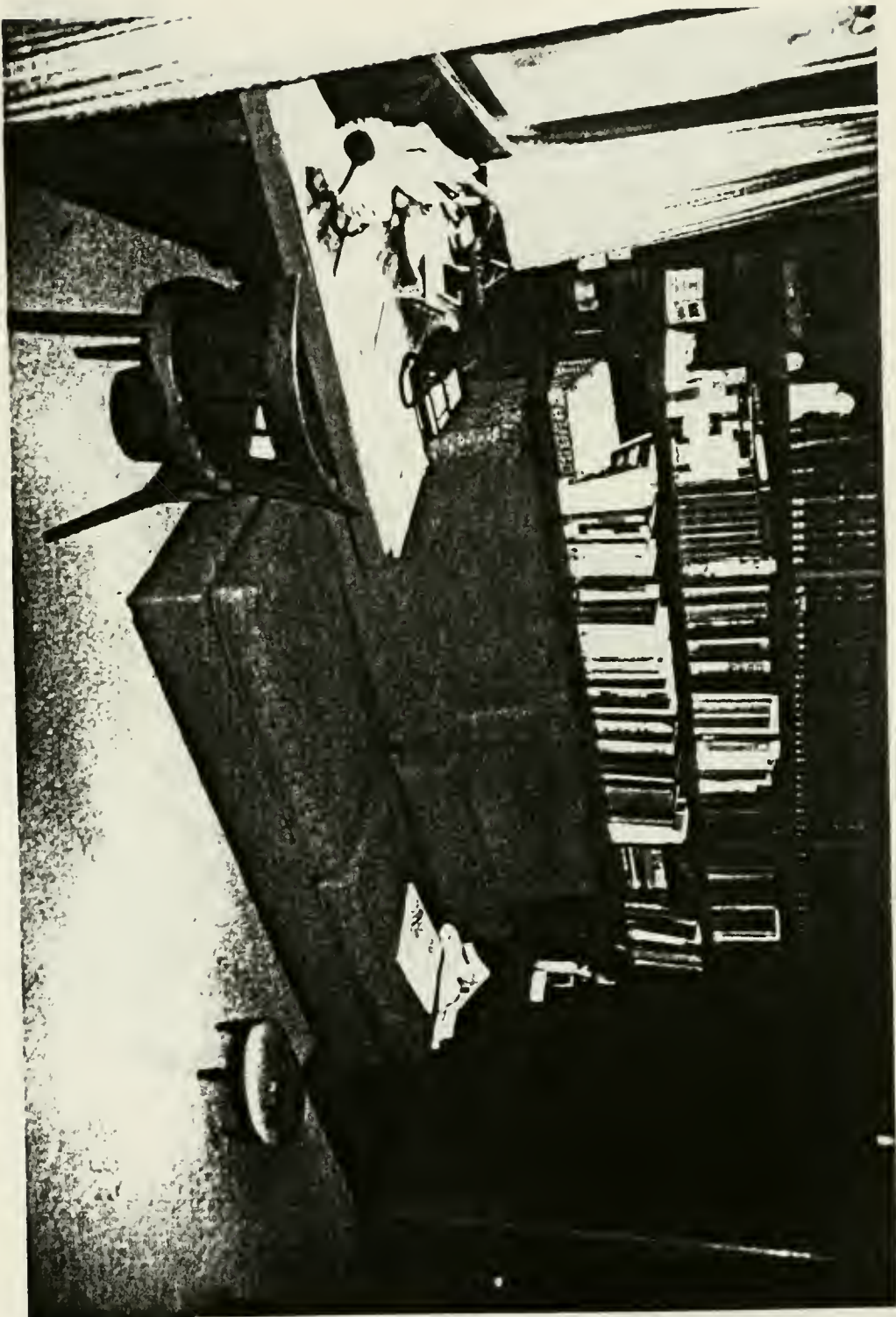


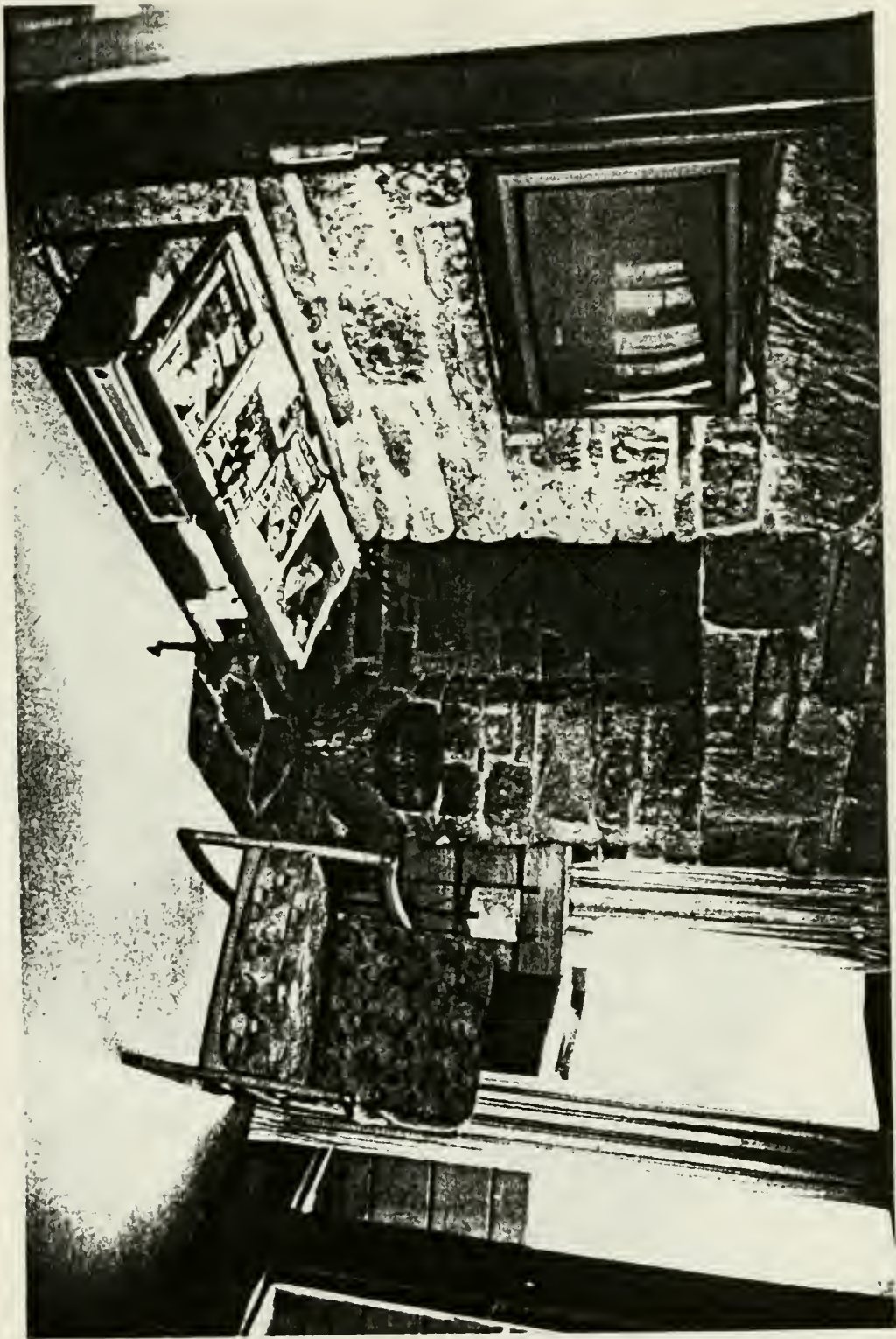


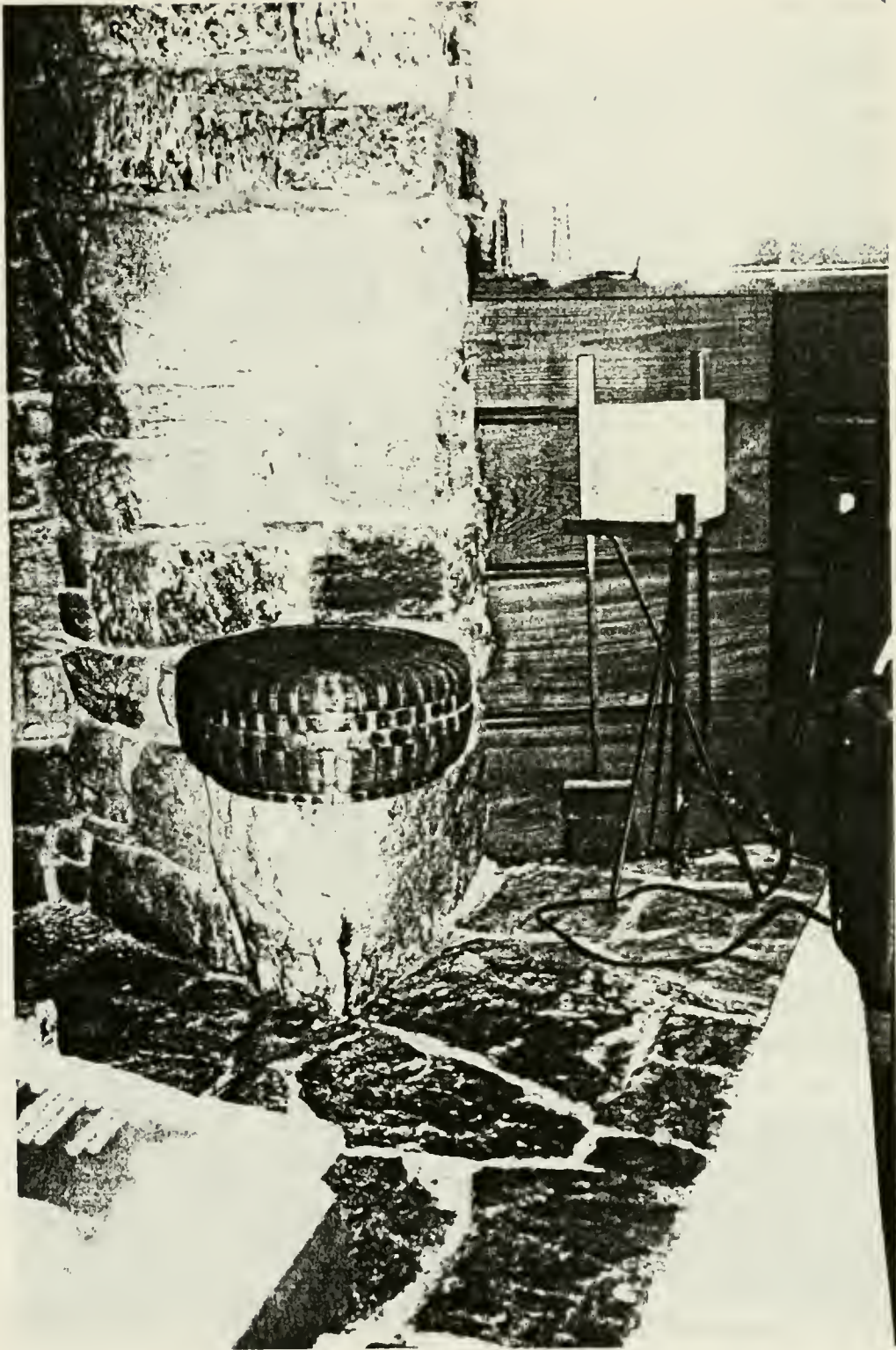


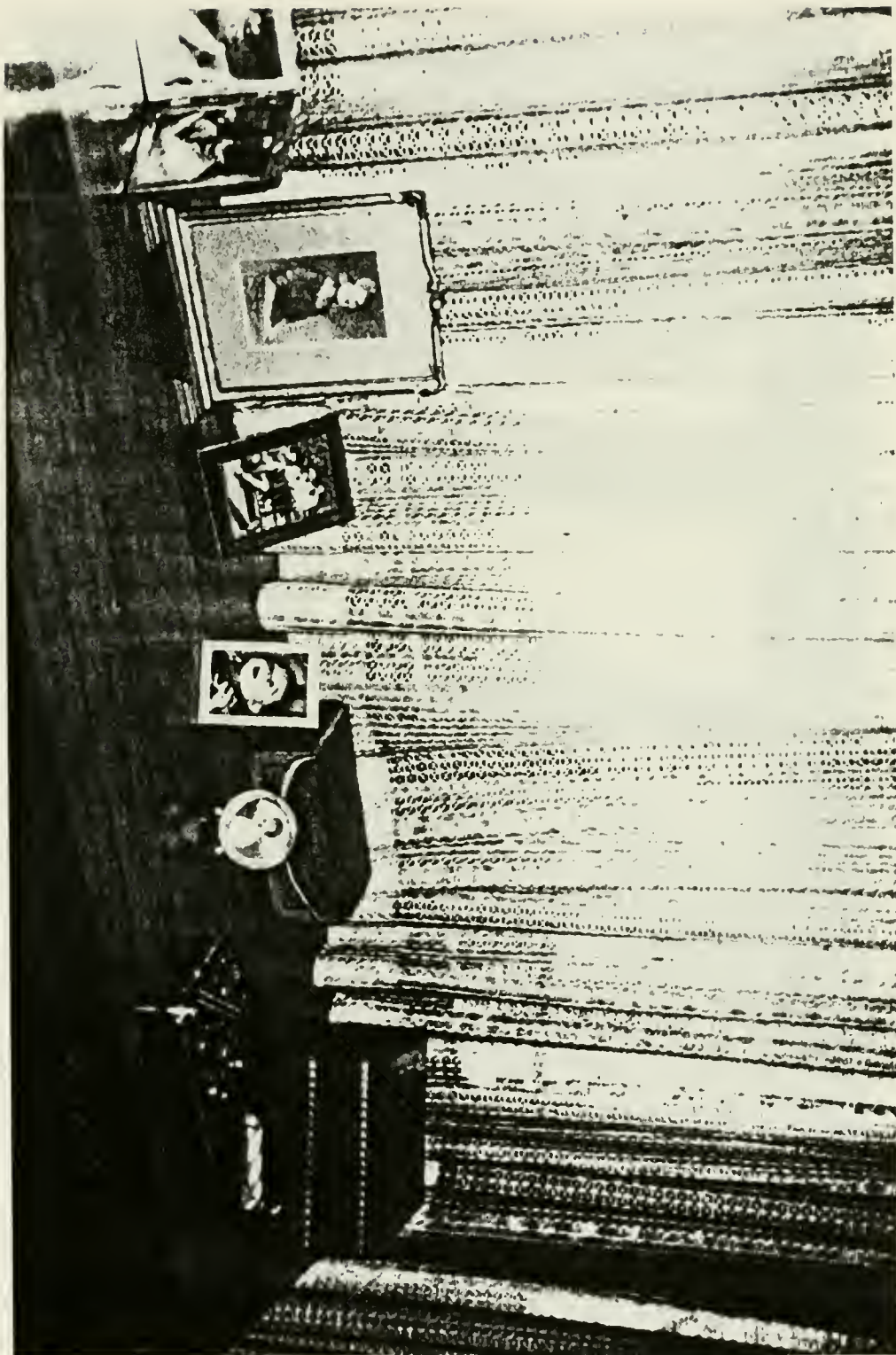


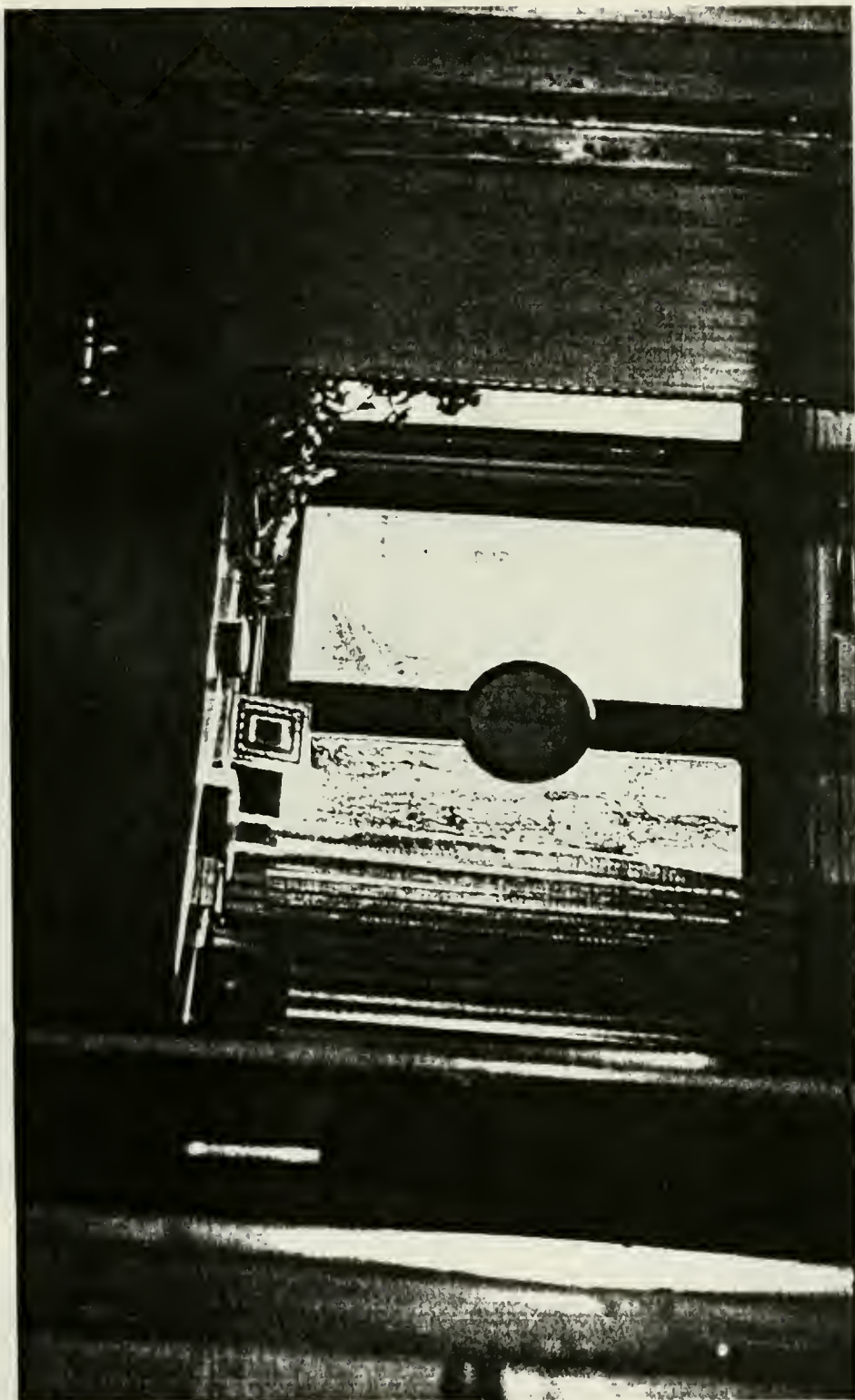












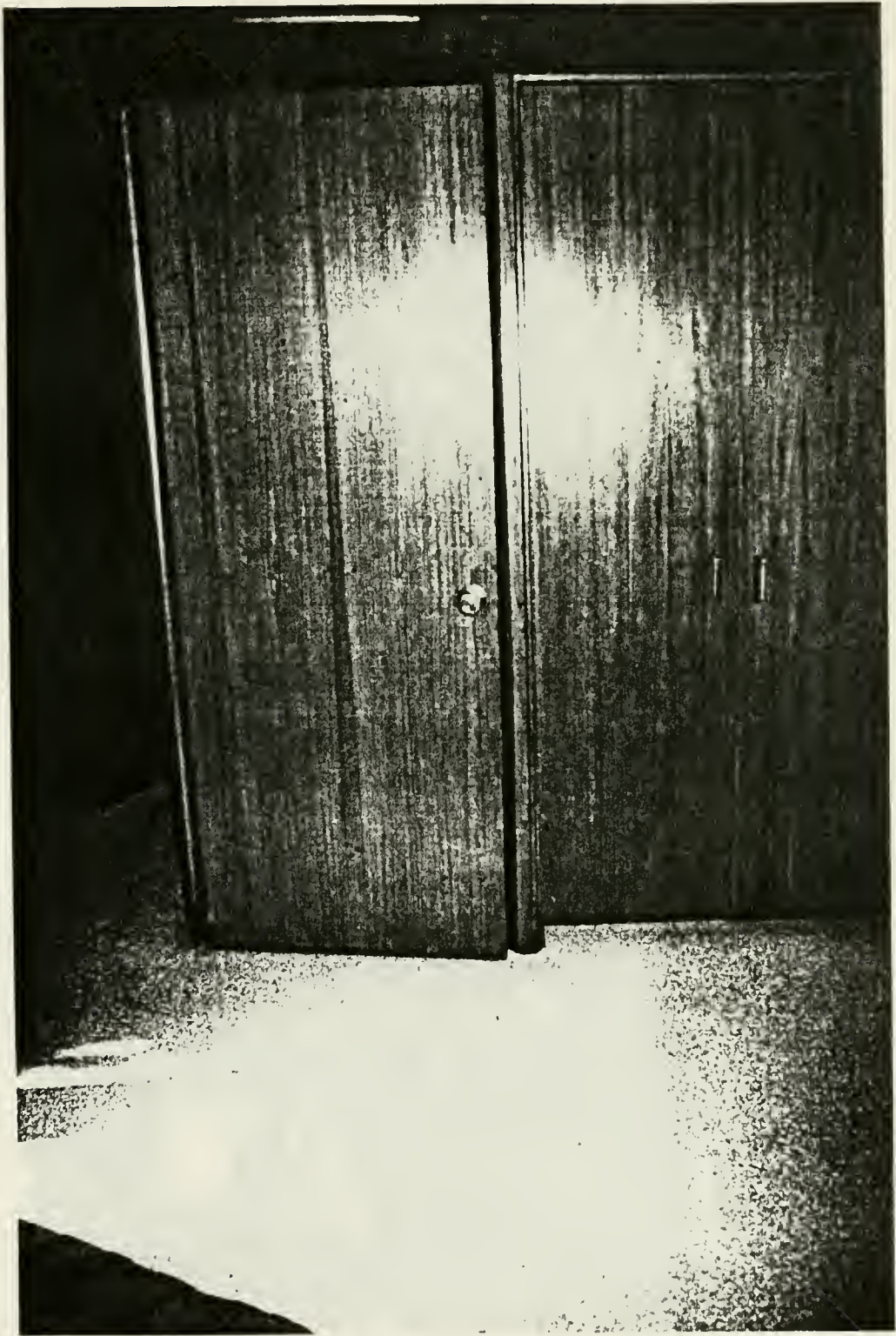
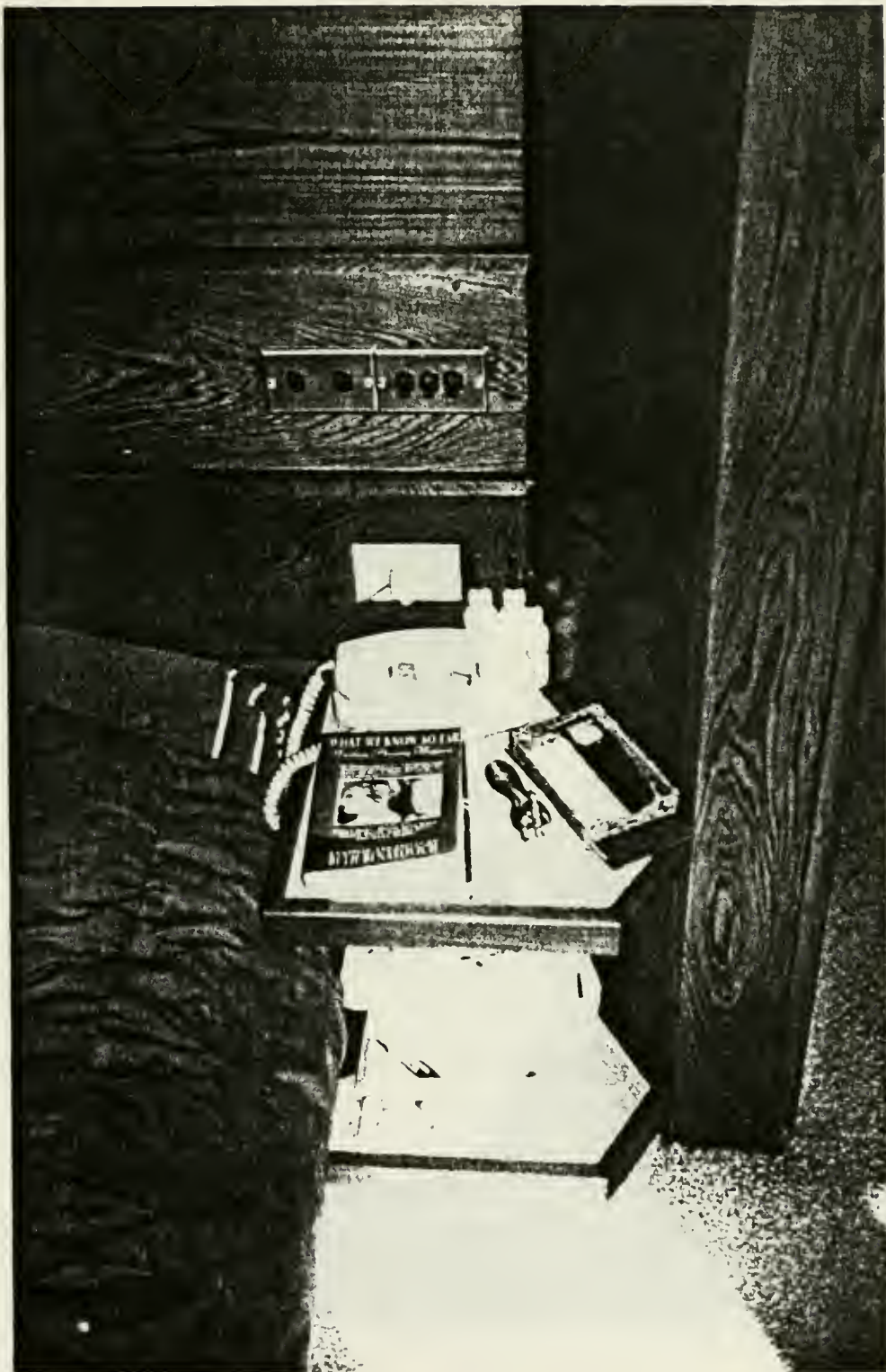








Illustration 51





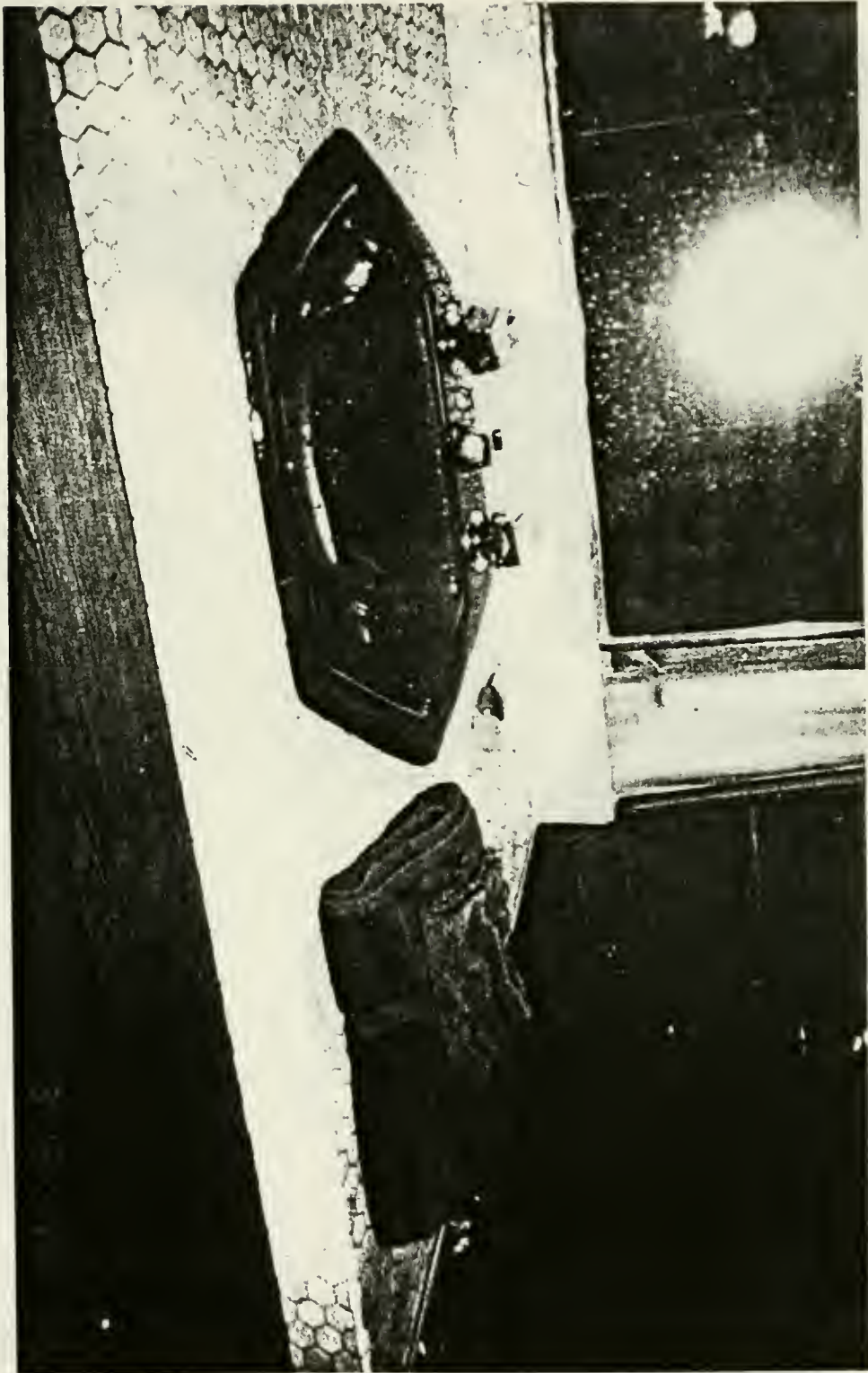
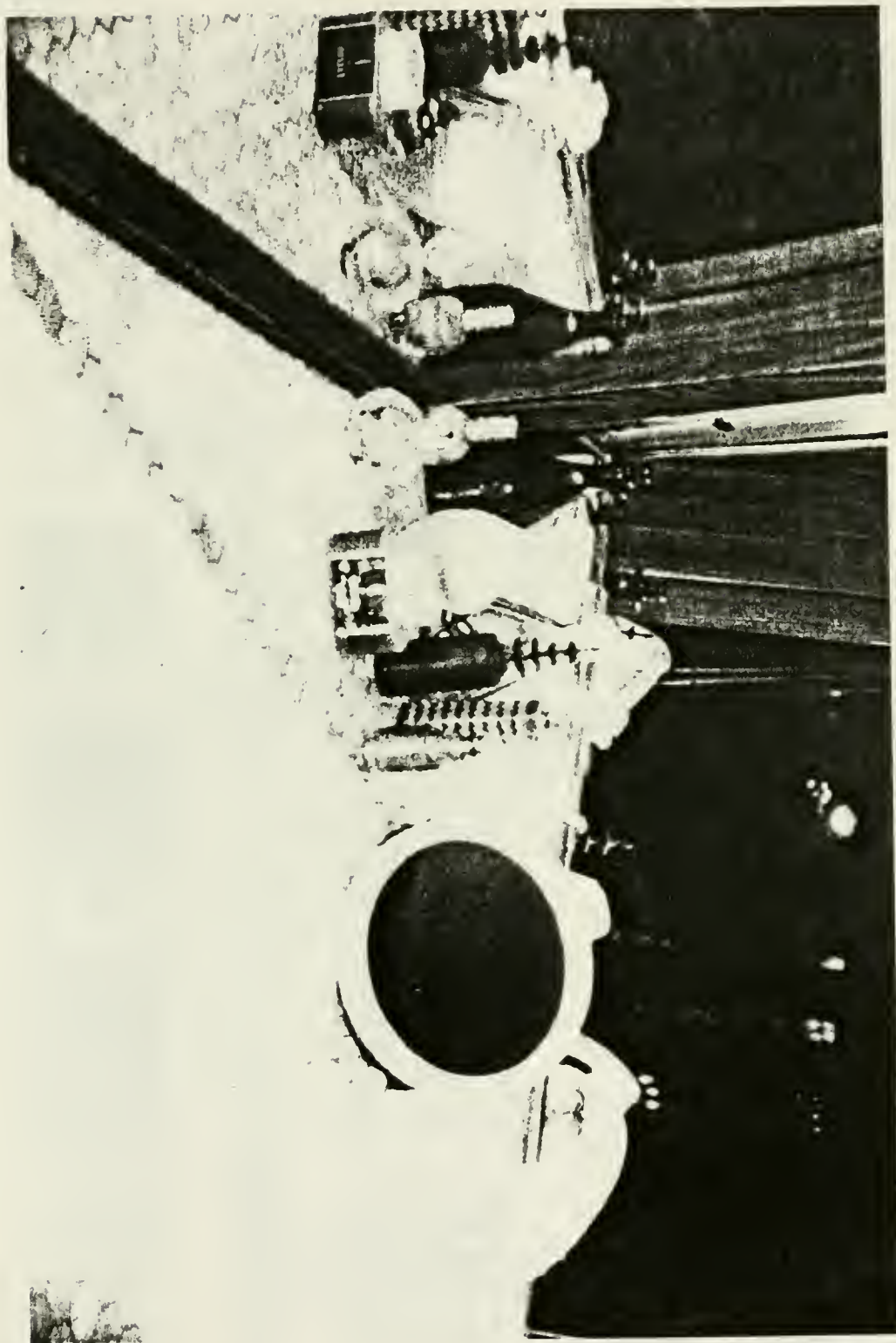


Illustration 54



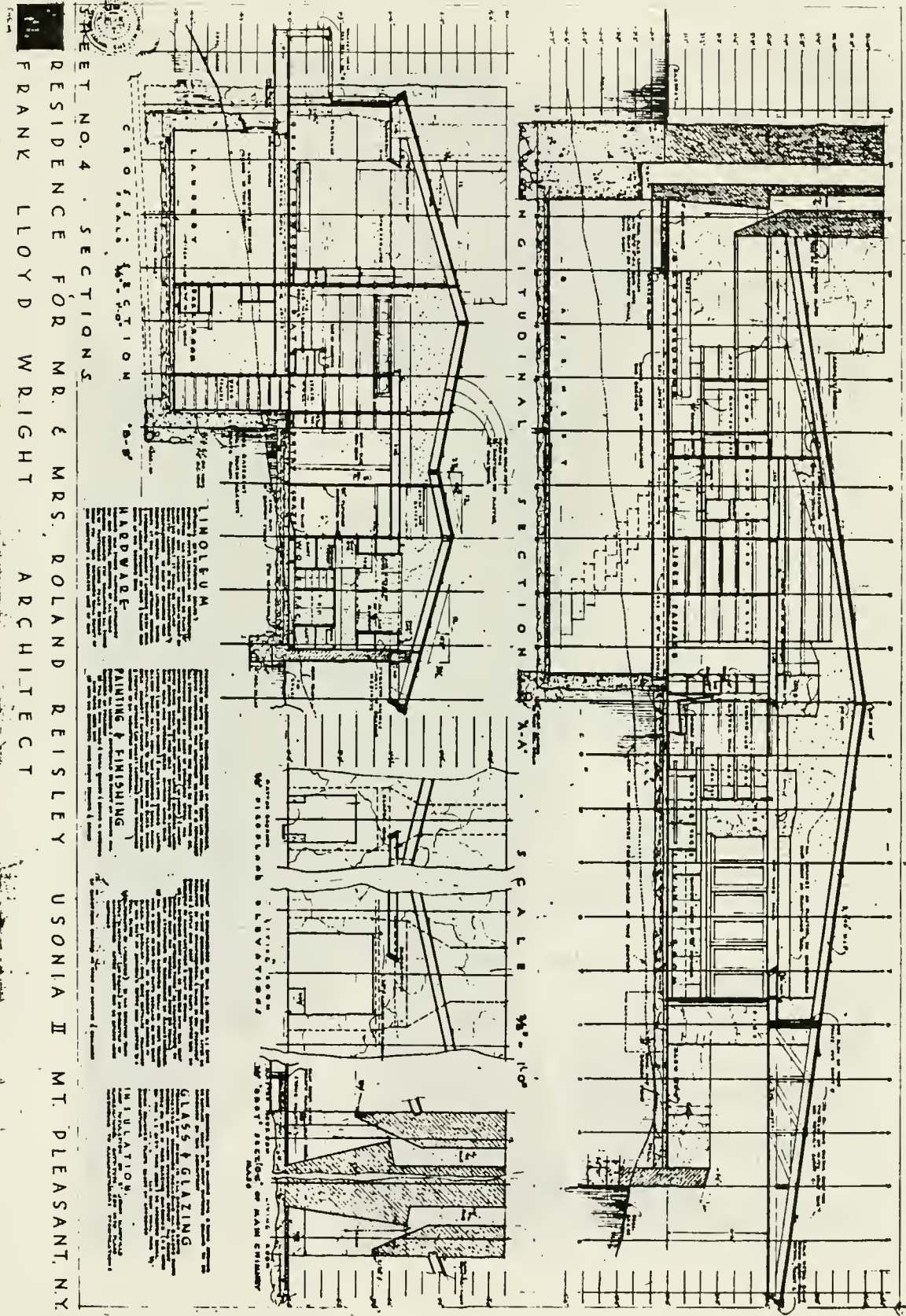
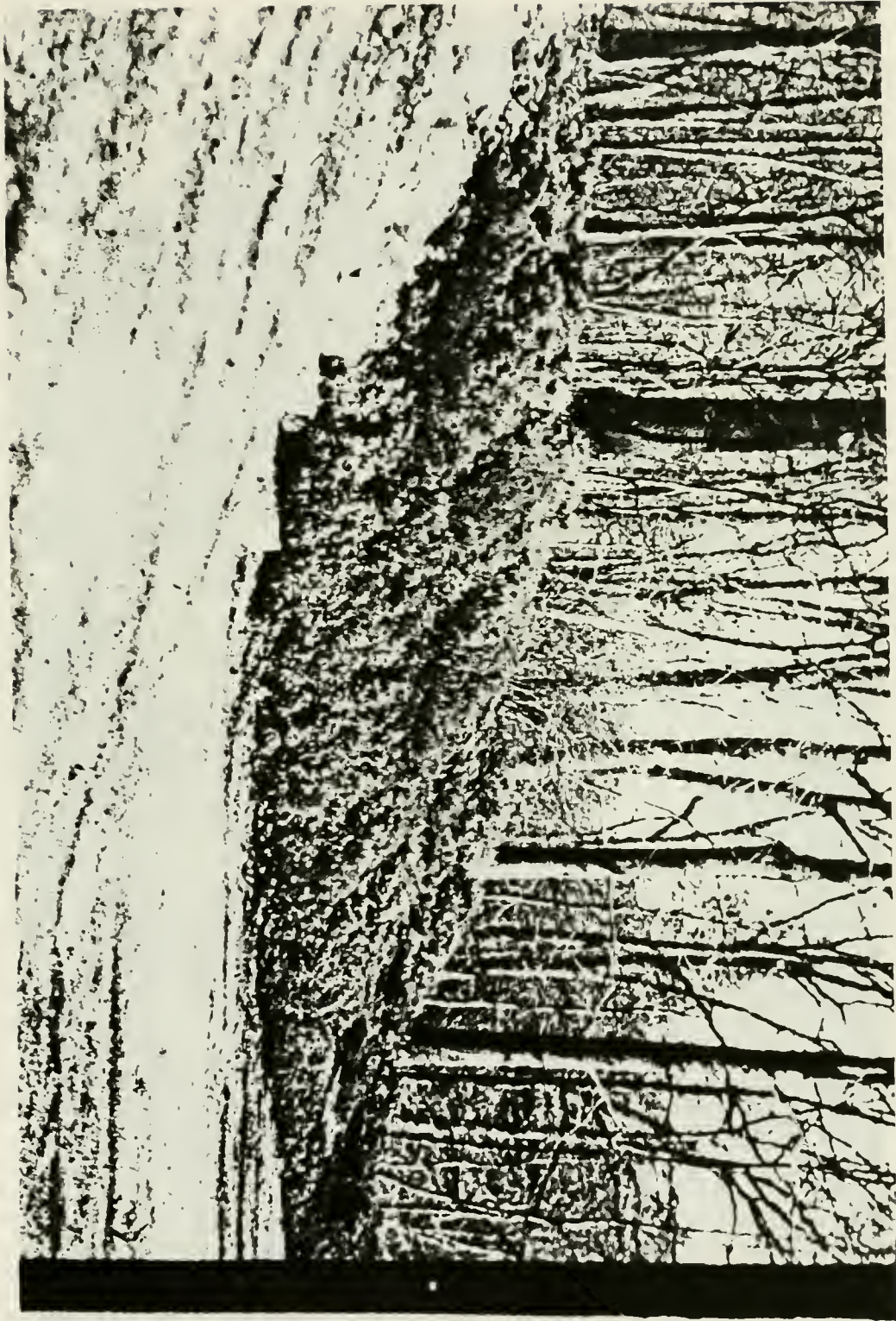
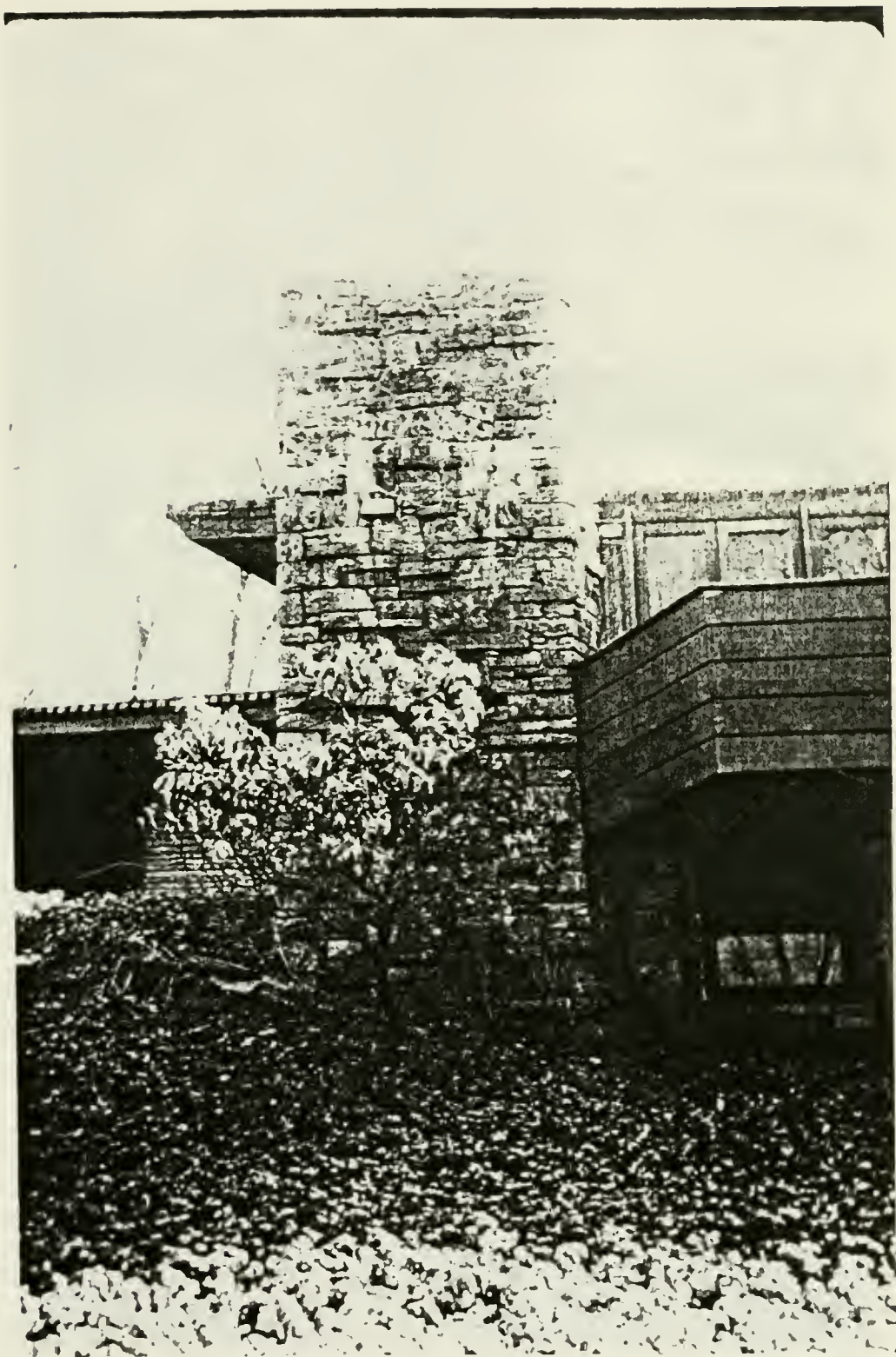


Illustration 56









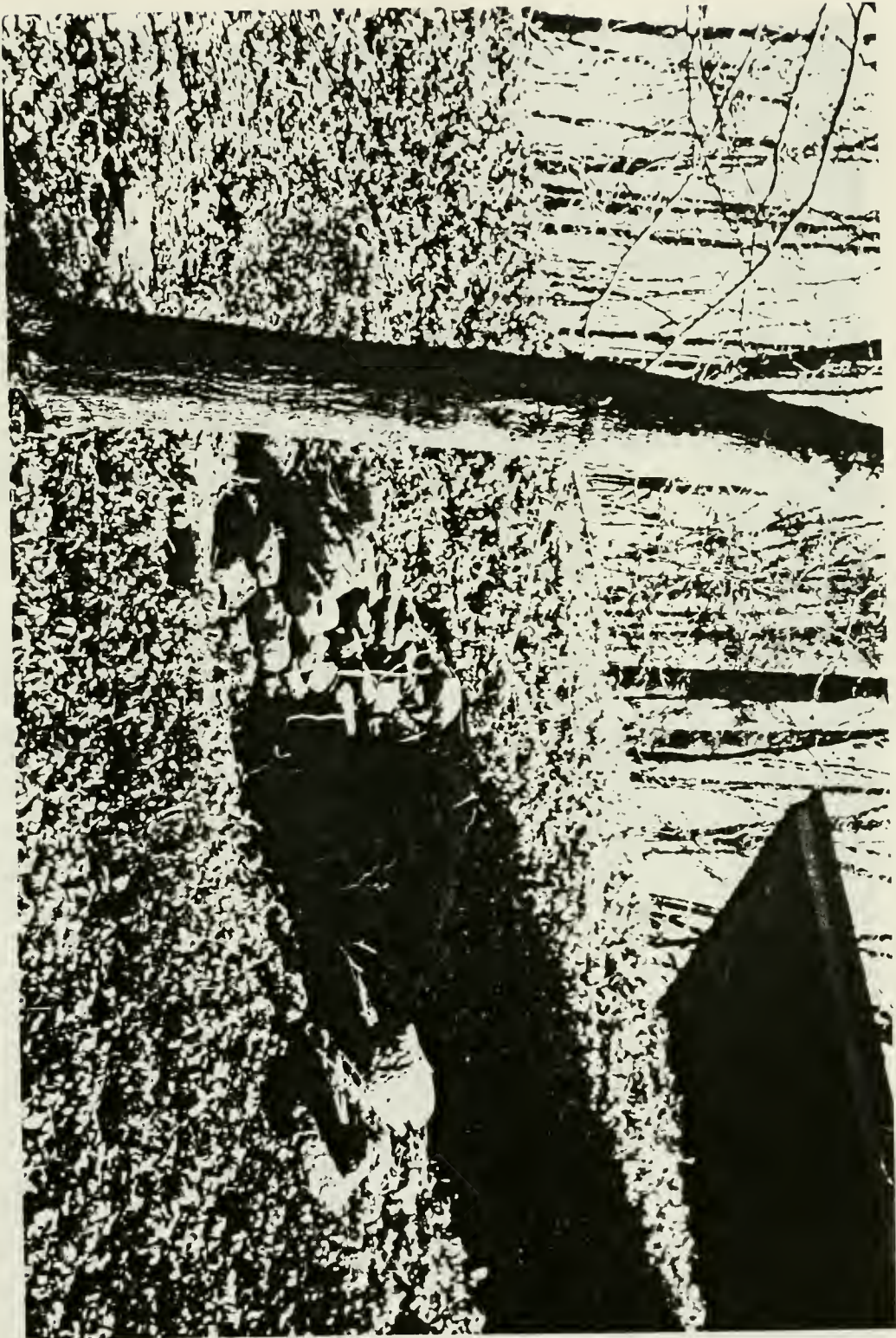


Illustration 61



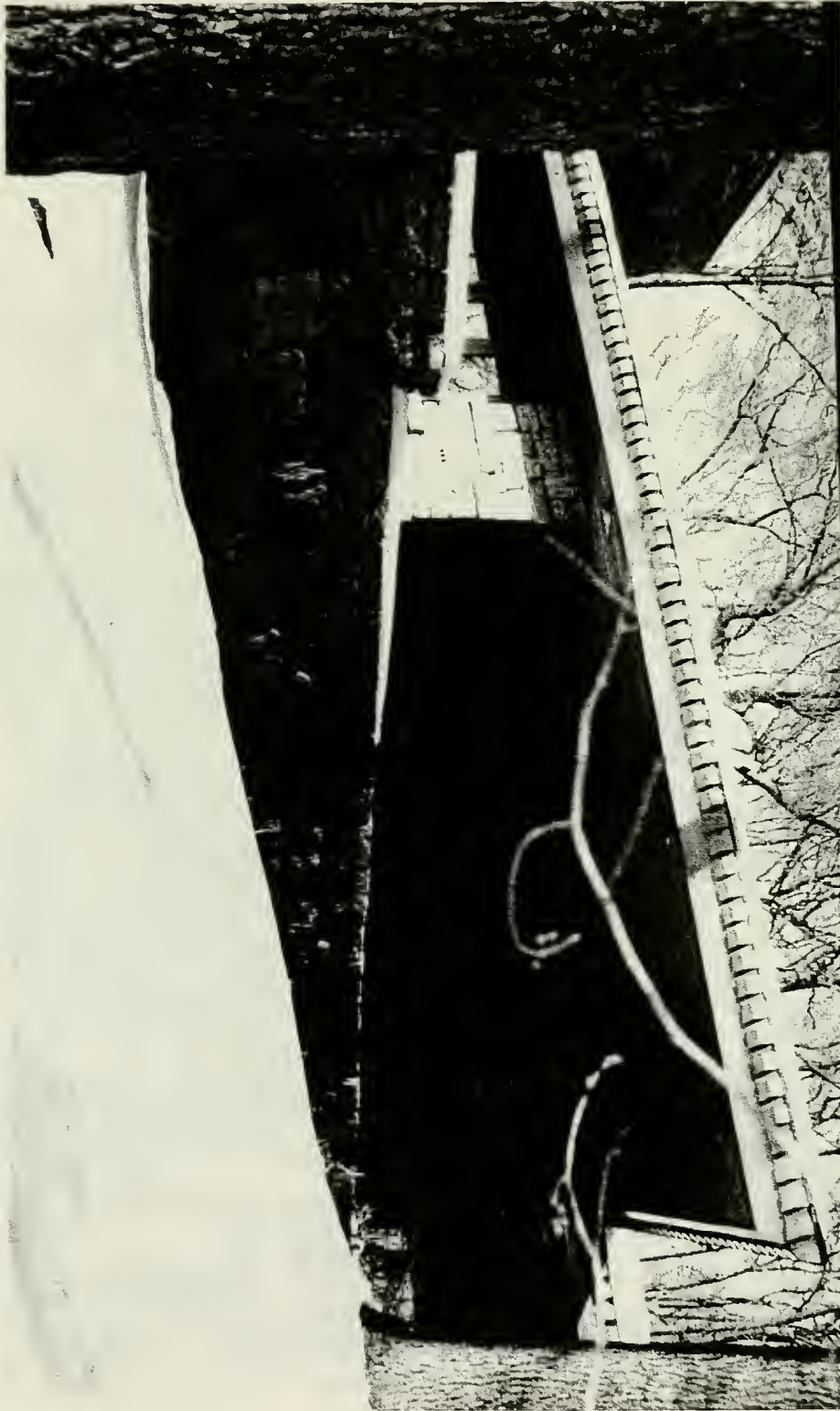
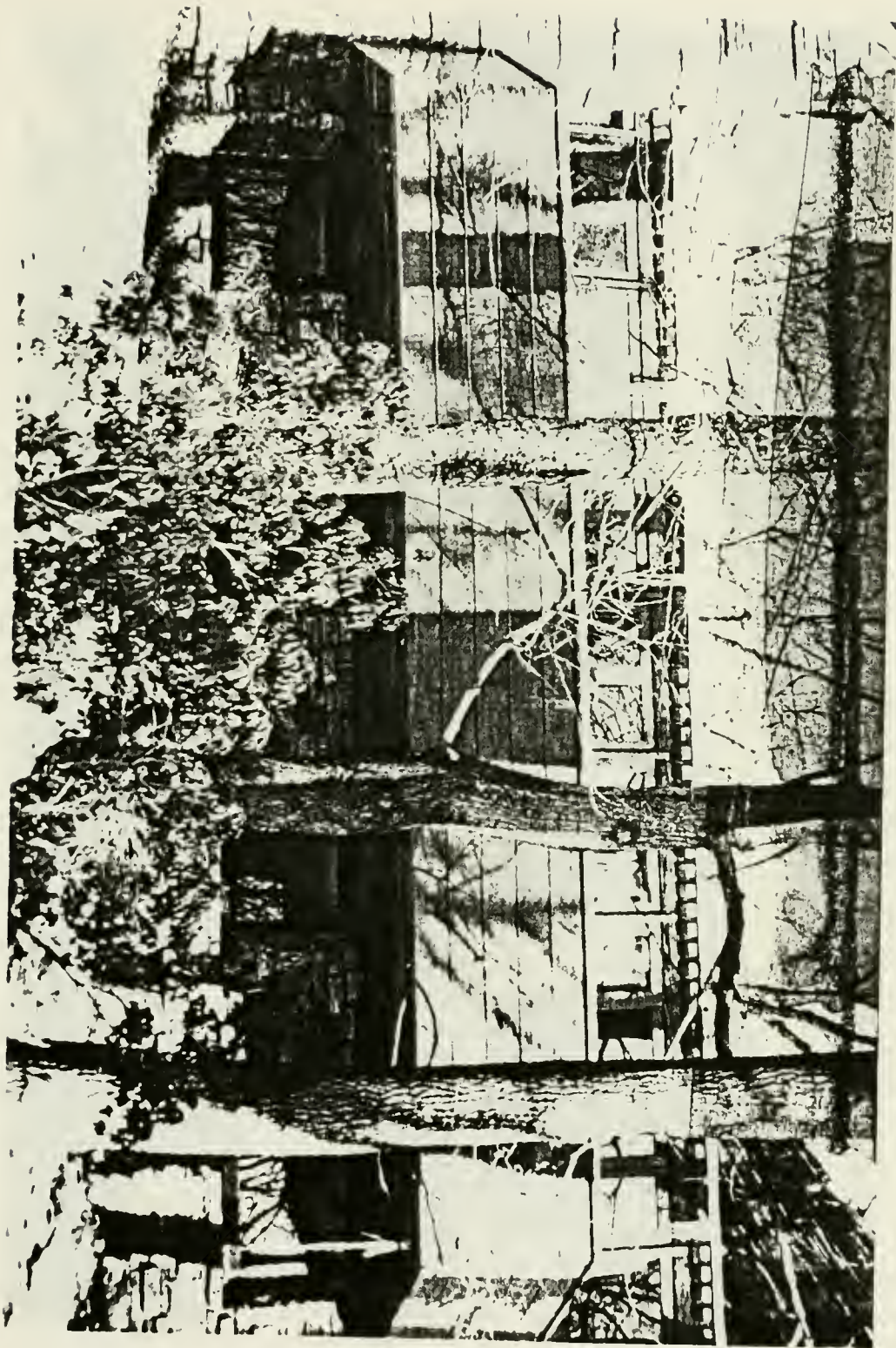
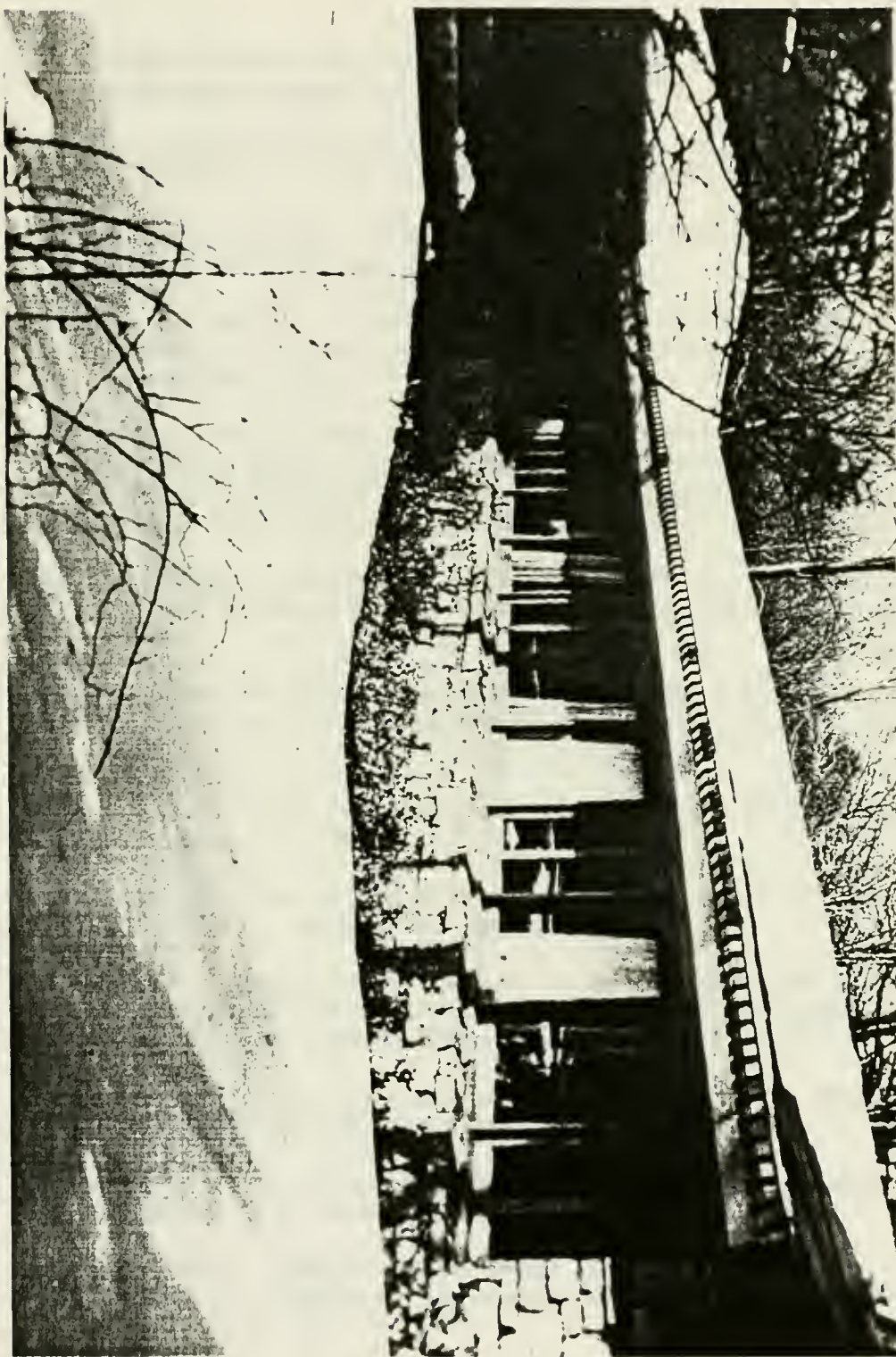


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BIBLIOGRAPHY

"American Small House Exhibition at the Museum of Modern Art."
Architects' Journal CII (30 August 1945), p. 159.

Bulletin Volume IV, Issue IV (Winter 1996). The Quarterly
Newsletter of the Frank Lloyd Wright Building Conservancy.

Fisher, Thomas. "Redone Wright." *Progressive Architecture*
(November 1987), pp. 127-133.

Fitch, James Marston. "Frank Lloyd Wright's Contribution to Your
Daily Life." *House Beautiful* Volume 98, Number 11
(November 1955).

"Frank Lloyd Wright Builds In the Middle of Manhattan, Shows How
to Make a Small, Simple House Rich and Spacious." *House and
Home* IV (November 1953), pp. 118-21. Usonian house for
exhibit, "Sixty Years of Living Architecture," New York.

Frank Lloyd Wright Monograph, VII (1942-1950). Yukio Futagawa,
ed; text by Bruce Brooks Pfeiffer. Tokyo: A.D.A. Edita, ca.
1984.

Frank Lloyd Wright Monograph, VIII (1951-1959). Yukio Futagawa,
ed; text by Bruce Brooks Pfeiffer. Tokyo: A.D.A. Edita, ca.
1984.

Gadd, Laurence. *From Tent to Cabin*. New York: The Bobbs-Merrill
Company, Inc., 1982.

Getty Center for the History of Art and the Humanities. Special
Collections. Los Angeles, California.

Gill, Brendan. "Wright on the Market: Finding, Buying and
Preserving Architectural Jewels." *Architectural Digest*
Volume 52, Number 12 (December 1995), pp. 58-62.

Guggenheimer, Tobias. *Master Plan Restoration Project: Phase I*.
The Edward and Beatrice Serlin house (7 July 1995).

Henken, Priscilla J. "A 'Broad-acre' Project." *Town and Country
Planning* V. 23 (June 1954), pp. 294-300.

Hoffman, Donald. "Usonia the Beautiful: The Dreams and the
Realities." *Journal of the Tallesin Fellows* Issue 10 (Spring
1993), pp. 12-13.

- Komanecy, Michael. "Realizing Wright's Usonian Design for the Zimmermans." *Journal of the Taliesin Fellow* Issue 10 (Spring 1993), pp. 19-23.
- Lipman, Jonathan. Frank Lloyd Wright Building Conservancy. "Wingspread and Its Restoration." Presentation to the American Architecture/Conservation Seminar (HSPU 620/743) at the University of Pennsylvania, spring term 1996.
- Morris, Robert. "Do the Wright Thing." *Cite* (Spring 1991), p. 6.
- "New Era for Wright at 86: The Marketplace Redeemed?" *Architectural Record* CXVIII (October 1955), p. 20. Textile designs for F. Schumacher and Co. and Karastan.
- Olsberg, Nicholas. Canadian Center for Architecture. "Frank Lloyd Wright's Intellectual Roots." Presentation to the American Architecture/Conservation Seminar (HSPU 620/743) at the University of Pennsylvania, spring term 1996.
- Realizations of Usonia*. Yonkers: A catalogue published for an exhibition at the Hudson River Museum, 3 February through April 7, 1985.
- Reese, Richard Dana. "At Home In a Work of Art: Frank Lloyd Wright's Usonian Masterpiece." *American Art and Antiques*. Volume 2, Number 3 (May-June 1979), pp. 60-67.
- Rosen, Harold J., and Tom Heineman. *Construction Specifications Writing: Principles and Procedures* (Third Edition). New York: John Wiley & Sons, 1990.
- Sholta, Jan. Letter. *Architectural Forum* LXXXVI (May 1947), pp. 26, 28. On the liveability of Wright's designs. Replies from Edgar Kaufmann and George S. Affleck, July, p. 22.
- Staggs, Sam. "The Wright People." *Art News* (January 1987), pp. 9-10.
- Storrer, William Allin. *The Architecture of Frank Lloyd Wright: A Complete Catalog*. Cambridge: MIT Press, 1973.
- Storrer, William Allin. *The Frank Lloyd Wright Companion*. Chicago: University of Chicago Press, 1993.
- Sweeney, Robert Lawrence. *Frank Lloyd Wright: An Annotated Bibliography*. Los Angeles: Hennessey & Ingalls, 1978.
- "Taliesin to the Trade." *Interiors* CXV (October 1955), pp. 130-3. Textile designs for F. Schumacher and Co., furniture designs for Heritage-Henredon.

"Usonia Homes: Every Family Has an Acre." *Architectural Forum* LXXXIX (October 1948), p. 16. Usonia II: master plan, executed in part, Pleasantville.

"When Democracy Builds." *Milwaukee Art Institute Bulletin* XVIII (November 1945), pp. 1-2.

Wright, Frank Lloyd. *An Autobiography*. London: Faber & Faber and the Hyperion Press Limited, 1945.

Wright, Frank Lloyd. "Building a Democracy." *Albright Art Gallery, Gallery Notes* XI (June 1947), pp. 14-18.

Wright, Frank Lloyd. *Frank Lloyd Wright Collected Writings* Volume III (1931-1939). New York: Rizzoli International Publications, Inc., 1995.

Wright, Frank Lloyd. *Frank Lloyd Wright Collected Writings* Volume IV (1949-1959). New York: Rizzoli International Publications, Inc., 1995.

Wright, Frank Lloyd. *House for Mr. and Mrs. Edward Serlin. Usonia II. Mount Pleasant, New York*. Revised plans, April, 1950.

Wright, Frank Lloyd. *The Natural House*. New York: Horizon Press, 1954.

Wright, Frank Lloyd. "On Organic Architecture." *Michigan Society of Architects Weekly Bulletin* XIX (10 April 1945), pp. 8-9. Lecture delivered to the Michigan Society of Architects, 22 March 1945.

Wright, Frank Lloyd. *Realizations of Usonia: Frank Lloyd Wright in Westchester*. Exhibition at the Hudson River Museum, 3 February through 7 April, 1985.

Wright, Frank Lloyd. "The Right to Be One's Self." *Husk* XXVI (December 1946), pp. 37-40. Speech delivered at Fifteenth Annual *New York Herald Tribune* Forum.

Wright, Frank Lloyd. *When Democracy Builds*. Chicago: University of Chicago Press, 1945.

Wright, Frank Lloyd. "The Word on Design." *Interiors* CXII (December 1952), pp. 116, 150, 152, 154, 156, 158, 160, 162, 164, 166.

"Wright Homes for Westchester." *Architectural Record* CII (November 1948), pp. 10, 170. Usonia II: master plan, executed in part, Pleasantville.

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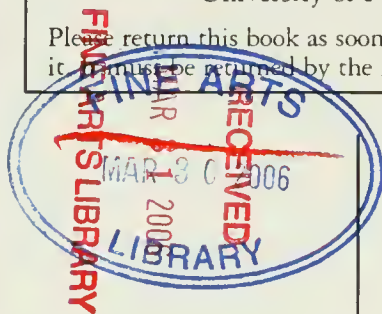
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